Switch From Efavirenz Improves Vitamin D Levels

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People with vitamin D deficiency who switched off efavirenz—found in Sustiva and Atripla—were likely to see improvements in their vitamin D levels. These data were published online ahead of print for the November issue of *AIDS Research and Human Retroviruses* and reported by aidsmap. Improvements in vitamin D levels were also seen in people living with HIV who switched off zidovudine, found in Retrovir, Combivir and Trizivir.

Vitamin D is actually a hormone. It is responsible for reducing blood vessel inflammation and helping the body absorb calcium from the intestines and into bones. Low vitamin D levels are common in black people and in all people during the winter months at the extreme northern and southern hemispheres. This is because sunlight is necessary to convert nutrients into vitamin D in the body. The melanin in darker skin blocks the absorption of the sun's rays and the very short periods of daylight in the extreme north and south during their winters diminishes people's exposure to the sun. Vitamin D levels also frequently diminish in people as they get older.

Numerous studies in recent years have found very high rates of vitamin D deficiency in people with HIV. Researchers are examining whether giving vitamin D supplements to HIV-positive people will help lower inflammation or stave off bone mineral loss. Studies of vitamin D supplementation in HIV-negative people have had mixed results.

Aside from supplementation, however, researchers are also interested in learning what might cause vitamin D deficiency in people with HIV in the first place. To shed light on this subject, Julie Fox, MD, from the Guy's and St Thomas' NHS Trust in London, and her colleagues studied vitamin D levels in people enrolled in the MONET study, which compared Norvir (ritonavir)–boosted Prezista combined with two nucleoside reverse transcriptase inhibitors (NRTIs) with Norvir-boosted Prezista alone.

Most of the participants were male, and most were white. All had been on previous antiretroviral (ARV) regimens, with the majority having taken non-nucleoside reverse transcriptase inhibitors (NNRTIs) such as efavirenz or nevirapine (Viramune). Most who were on NNRTIs when the study began were taking efavirenz.

Rates of vitamin D deficiency were extremely common, with roughly 70 percent having some level of vitamin D deficiency and 15 to 25 percent being severely deficient. At the beginning of the

study, the factors most commonly associated with vitamin D deficiency were black race, use of efavirenz or zidovudine, and calendar month—with vitamin D levels lowest during the winter and early spring and highest in September.

Interestingly, people who switched off efavirenz and zidovudine saw significant improvements in their vitamin D levels. People switching from another protease inhibitor to Prezista or from other NRTIs did not see significant improvements, though they were less likely to suffer from vitamin D deficiency in the first place.

“Given the evidence for health benefits of optimal vitamin D levels, people with HIV infection should be monitored for vitamin D levels. For patients with severe vitamin D deficiency, the use of vitamin D supplements or changes in antiretroviral treatment could be considered,” the authors concluded.

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