Study to analyze seizures in HIV patients, explore drug interactions

EurekAlert

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EAST LANSING, Mich. ? A Michigan State University researcher is looking to uncover the risks of treating seizures in HIV-positive patients, providing much-needed data on possible interactions between antiepileptic drugs and antiretroviral medicines that potentially could make HIV drugs less effective or the disease itself drug resistant.

Despite seizures being one of the most common neurologic symptoms among HIV-positive patients, little is known to guide physicians looking to treat the attacks with antiepileptic drugs, said Gretchen Birbeck, an associate professor of neurology and ophthalmology in MSU's College of Osteopathic Medicine.

To that end, Birbeck has been awarded a $244,750 grant from the National Institute of Neurological Disorders and Stroke to create a cohort study in Zambia, where rates of epilepsy and AIDS are both high.

"We will be identifying people who are HIV positive and who have had their first seizure," Birbeck said. "We then will follow them over time through the clinics where they receive HIV treatment. At each visit, we will reassess whether they have had further seizures, whether they require seizure medications chronically and if they are also taking HIV medications."

A critical part of the study, Birbeck said, is to determine whether the dual burden of treating seizures and HIV at the same time affects the efficacy of antiretroviral drugs or makes HIV resistant to medications.

The issue, Birbeck explains, is the antiepileptic drugs used in Zambia (where epilepsy rates are about 10 times what they are in the United States) and across much of the developing world belong to a class of drugs known as enzyme inducers.

"Taking enzyme-inducing drugs causes the body to speed up its metabolism of some other drugs," Birbeck said. "Among the drugs potentially affected are critical antiretrovirals.

"So a patient taking both medicines may be taking a dose of antiretroviral that is getting metabolized too rapidly, putting them at risk of drug failure, developing AIDS and even death."

The interaction also may increase the risk that in a HIV-positive person taking antiepileptic drugs, the virus develops resistance to the drugs that are now present

in doses too low to kill it. If that occurred, Birbeck said, a form of HIV could be transmitted to uninfected people who now will not respond to available medications.

"This study is vital to assist clinicians in determining if and when to initiate chronic treatment for seizures in people with HIV and to determine if using the medications for HIV and epilepsy routinely available in resource-limited settings may be leading to problematic drug interactions," Birbeck said.

Birbeck, who also serves as director for MSU's International Neurologic & Psychiatric Epidemiology Program, has been studying in Zambia and sub-Saharan Africa since the early 1990s. Her work also focuses on the link between epilepsy and cerebral malaria in the region.

SOURCE [2]

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