

SOUTHWESTERN NEWS

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ANTIRETROVIRAL THERAPY IN HIV-INFECTED CHILDREN CAN STOP NEUROLOGICAL DAMAGE

DALLAS – July 24, 2002 – Treating HIV-infected children with antiretroviral therapy can stop and potentially even reverse neurological damage caused by HIV, doctors from UT Southwestern Medical Center at Dallas report in an international study.

Neurological symptoms are often one of the first signs HIV has progressed to AIDS in children.

In the July 2002 issue of the *Journal of Pediatrics*, Dr. Octavio Ramilo, senior author of the study and an associate professor of pediatrics at UT Southwestern, and colleagues write that children with HIV often fail to reach developmental milestones, show impaired brain growth and have trouble with fine motor skills even before other signs of developing AIDS are manifested. When treated with antiretroviral therapy that targeted the central nervous system, however, children showed neurological improvement.

“The good news is antiretroviral therapy does work,” Ramilo said. “In some children, the amount of virus in their brains became undetectable.”

In adult patients, HIV attacks the brain late in the course of illness, causing memory loss and dementia.

“Kids don’t have a developed immune system like adults, so the virus is able to spread much, much faster,” he said.

Twenty-three children aged seven months to 10 years were enrolled in the study at the Hospital del Nino in Panama City, Panama. All of the children had been infected with HIV at birth. At the beginning of the study, 83 percent of the children showed neurological abnormalities. After 48 weeks on antiretroviral therapy, only 35 percent of the children continued to show neurological abnormalities.

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“This study proves that HIV infects the central nervous system of children, causing severe neurological problems,” Ramilo said. “The study underscores the importance of using antiretroviral agents which are active in the central nervous system for treatment of children infected with HIV. You can see the difference in kids treated with antiretroviral therapy. They lead almost normal lives. They do much better.”

The study's findings showed the children's central nervous systems had fewer HIV-infected cells after antiretroviral therapy treatment. HIV in the children's blood and HIV in the children's cerebrospinal fluid also showed different patterns of mutation, suggesting the two systems respond differently to drug treatment. The study's authors recommended that doctors treat children with antiretroviral therapy targeting both the blood and central nervous system.

“In the context of the current debate on when to initiate antiretroviral therapy in children, one must take into consideration potentially reversible early neurologic manifestations, which may be under-appreciated unless formal neurologic/neuropsychologic testing is performed,” the study authors wrote.

Author of the study, Dr. Cynthia McCoig, was a pediatric infectious disease fellow at UT Southwestern. Other participating investigators included scientists from Hospital del Nino, which has collaborated with UT Southwestern on pediatric infectious disease studies in the past, and GlaxoSmithKline, Inc.

The study was funded in part by a grant from Glaxo Wellcome Inc., which has become GlaxoSmithKline.

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