

YOU DON'T HAVE TO BE PERFECT TO BE A PERFECT PARENT
There are thousands of siblings in foster care who'll take you just as you are.

[> Learn about adoption](#)

Study: Babies Exposed to Anti-HIV Drugs in the Womb and During Breast-feeding

0 Comments



Tweet



Share

3

First Posted: Jul 23, 2012 11:13 AM EDT



(Photo : Flickr) Breastfeeding

Researchers from the University of California in San Francisco and Makerere University in Uganda have concluded that babies born to HIV-positive women taking antiretroviral drugs to fight the disease may become exposed to the drugs in the womb and during breast-feeding.

Researchers examined over 100 HIV-positive mothers who were breast-feeding their infants and taking either lopinavir and ritonavir, or efavirenz. Hair and blood samples taken from the 3-month-old infants of women with HIV found evidence that two medications pass from mother to baby in the womb, while a third medication is passed both in utero and by breast milk.

Like Us on [Facebook](#)



3k

"Since fetuses start growing hair in the womb, hair sampling gives us an opportunity to examine exposures to drug before birth," said Monica Gandhi senior study author and associate professor of medicine at the UCSF Division of HIV/AIDS at San Francisco General Hospital and

Trauma Center in a news release. "From looking at plasma level data at the same time point, we believe that transfer of two of the medicines from mother to baby occurs exclusively in the womb and transfer of the third medication occurs both in the womb and through breastfeeding."

Researchers say, the findings could lead to new ways to protect infants from HIV transmission and to better understand the development of toxicities and resistance to the drugs.

For 45 mother/infant pairs, the mothers' antiretroviral regimens included a protease inhibitor, lopinavir, boosted by ritonavir, another antiretroviral medication. The other 64 mothers were on an efavirenz-based regimen.

Infants in the lopinavir group had levels of the drug in their hair that measured 87 percent of the levels found in their mothers' hair. The levels of ritonavir were about 45 percent of the levels found in their mothers' hair. When the researchers looked at the drug levels in the blood drawn from the mothers and infants at 12 weeks, they found the expected levels of lopinavir and ritonavir in the mothers, but none of either in the blood of the infants.

"The inability to find drug in the infants' blood at 12 weeks tells us that the lopinavir and ritonavir in their hair is not due to recent exposure, so breast-feeding did not transfer these drugs to the infants, Ghandi said. "Our conclusion is that the lopinavir and ritonavir were transferred to the babies in the womb, and lopinavir at quite a high level."

In the efavirenz group, researchers found infant drug levels in hair samples that were about 40 percent of the levels found in their mothers. Additionally, they found that infants had levels in their blood that were about 15 percent of what was found in their mothers.

Ghandi said the findings will have important implications.

"Being able to measure drug exposures of fetuses in the womb and during breast-feeding can help us understand how to better protect infants from HIV transmission from HIV-positive mothers during pregnancy, birth and after birth," Ghandi said. "Antiretroviral medications are delivered prophylactically to HIV-positive mothers and newborns to prevent transmission, and fetuses derive protection from transmission if their HIV-positive mothers are on an antiretroviral regimen."

Ghandi also said that the development of resistance to antiretroviral medications in infants is an important issue.

"HIV develops resistant mutations after fairly low levels of exposure to the class of medications to which efavirenz belongs, non-nucleoside transcriptase inhibitors (NNRTIs)," she said. "Additionally, hair sampling for antiretroviral exposure levels will ultimately help us monitor toxicities associated with these medications in infants."

The researchers' word was presented at the International Workshop on HIV Pediatrics in Washington, D.C.

Get our most popular stories in a weekly newsletter