Maternal HIV-1 treatment protects against transmission to newborns

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Mothers receiving highly active antiretroviral therapy (HAART) to treat HIV-1 infection are less likely than untreated mothers to transmit the virus to their newborns through breastfeeding, according to a new study. The findings, now available online in the Nov. 15 issue of The *Journal of Infectious Diseases*, suggest HAART regimens should be initiated as early as possible in eligible mothers in areas with limited resources, such as Africa, where most infant HIV-1 infections occur, and breastfeeding is common.

Led by Taha E. Taha, MBBS, PhD, of Johns Hopkins University Bloomberg School of Public Health, the researchers studied 2,318 infant/mother pairs in Malawi; a total of 130 infants (about 6 percent) became HIV-1-infected. The protective effect of HAART was readily apparent: The therapy was associated with an 82 percent reduction in postnatal HIV-1 transmission. The reduction was observed in mothers with CD4 counts low enough to be eligible for HAART compared to mothers with low counts who did not receive the therapy. Among the infants who became HIV-1-infected, only five had mothers who were both eligible for HAART and actually received it, representing a transmission rate of 1.8 percent. In contrast, 53 infected infants had mothers who were HAART-eligible but who went untreated (a 10.6 percent transmission rate). Seventy-two other infected infants had mothers who were HAART-ineligible because their CD4 cell counts were consistently high (a 3.7 percent transmission rate).

While acknowledging more research is needed to develop safe, effective,

and affordable ways to prevent postnatal transmission in settings with few resources, the study's authors recommend that women presenting late in pregnancy who have low CD4 counts and require antiretroviral treatment start HAART as soon as possible during pregnancy or postpartum. For women who do not need HAART for their own health because of a high CD4 count—and who represented approximately 70 percent of the Malawi patients studied—the investigators noted that the choices are unclear. The options include prolonged infant antiviral prophylaxis beyond 14 weeks of age or the institution of HAART in mothers who do not require the therapy according to current guidelines.

The authors had reported in 2008 that daily use of either nevirapine or nevirapine and zidovudine from birth up to the age of 14 weeks in breastfeeding infants of HIV-1-infected mothers reduced the rate of infant infection by 67 percent, compared to infants who received only a single dose of nevirapine and one week of zidovudine.

In an editorial accompanying the authors' latest article, Grace C. John-Stewart, MD, PhD, of the University of Washington School of Public Health, noted that programs to prevent mother-to-child transmission of HIV need to accelerate in many ways. Globally, there are still large gaps in HIV-1 testing and CD4 count availability, which are necessary to identify women infected with the virus and determine if HAART is right for them. "Recognizing the impact of prompt HAART initiation in eligible women and finding efficiencies in CD4 testing and delivery of HAART services will leverage antenatal HIV-1 testing to increase maternal survival and decrease infant infections," Dr. John-Stewart said.

Source: Infectious Diseases Society of America (news : web)