

NIH studies influence revision of WHO guidelines for treating HIV-infected women, infants

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Two studies appearing in the October 14, 2010 *New England Journal of Medicine* and funded by the National Institutes of Health helped influence the World Health Organization (WHO) to change its guidelines this year for the treatment of HIV infection in certain women and children. The recently updated guidelines affect HIV-infected women who receive a single dose of the antiretroviral drug nevirapine to prevent HIV transmission to their babies, and infants who receive a single dose of nevirapine to prevent acquiring the virus from their HIV-infected mothers but nevertheless become infected. The studies demonstrated that in both cases, the single dose of nevirapine used to prevent mother-to-child transmission of HIV can hamper the drug's effectiveness if it is also used later as part of a regimen to treat these same individuals.

An interim review of the first study, known as OCTANE or ACTG 5208, found that exposing HIV-infected women to a single dose of nevirapine to prevent mother-to-child HIV transmission without subsequently administering a short course of other antiretroviral drugs may lead these women to develop nevirapine-resistant HIV. The development of [drug resistance](#) compromises the effectiveness of HIV treatment regimens that include nevirapine as well as other drugs in the same class (known as non-nucleoside reverse transcriptase inhibitors, or NNRTIs). However, the negative effect of exposure to single-dose nevirapine appears to decrease over time.

The 2010 WHO guidelines now advise that HIV-infected women who take single-dose nevirapine to prevent mother-to-child transmission should not be treated for their own infection with a drug regimen that includes an NNRTI if treatment begins fewer than 12 months later and if the women were not given other antiretroviral drugs to prevent the

development of nevirapine-resistant HIV.

An interim review of the second study, known as P1060, found that HIV-infected infants who received single-dose nevirapine but nevertheless acquired HIV from their infected mothers control the virus better if their HIV treatment regimen includes the antiretroviral drug ritonavir-boosted lopinavir rather than the more commonly used nevirapine. (Lopinavir is in a different class of drugs than nevirapine.)

The 2010 WHO guidelines now strongly advise that HIV-infected infants who received single-dose nevirapine in an attempt to prevent mother-to-child transmission of the virus be treated with ritonavir-boosted lopinavir plus two other antiretroviral drugs. Previously, WHO had recommended treatment with [nevirapine](#) plus two other antiretroviral drugs.

More information: The National Institute of Allergy and Infectious Diseases (NIAID), part of NIH, announced the interim findings from the first study in 2008 (www.niaid.nih.gov/news/newsrel.../pages/actg_5208.aspx) and from the second study in 2009 (www.niaid.nih.gov/news/newsrel.../009/Pages/P1060.aspx).

ARTICLES: S Lockman et al. Antiretroviral therapies in women after single-dose nevirapine exposure. *New England Journal of Medicine* DOI:10.1056/NEJMoa09-06626 (2010).

P Palumbo et al. Antiretroviral treatment for children with peripartum nevirapine exposure. *New England Journal of Medicine* DOI:10.1056/NEJMoa10-00931 (2010).

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