HIV drug resistance lasts about one year in women treated with nevirapine to prevent infant infection

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A new international study reported in *PLoS Medicine* confirms that a single dose of nevirapine (sdNVP) can lead to HIV treatment failure in women who receive the drug to prevent transmission of the AIDS virus to their infants. However, the increased risk of failure could only be detected in women who began full HIV treatment within about a year after receiving sdNVP.

Because of its convenience and availability, sdNVP has become the mainstay for preventing mother-to-child transmission (MTCT) of HIV in many developing country settings. However, previous studies have shown that sdNVP can induce nevirapine-resistant HIV in treated mothers, potentially increasing the chance that subsequent HIV therapy containing nevirapine, or other drugs of the non-nucleoside reverse transcriptase inhibitor (NNRTI) class, will fail.

In the current study, Jeffrey S.A. Stringer of the University of Alabama at the Birmingham Centre for Infectious Disease Research in Zambia and colleagues enrolled 355 nevirapine-exposed and 523 nevirapine-unexposed women at two sites in Zambia, one site in Kenya, and two sites in Thailand and followed them for 48 weeks after starting combination antiretroviral therapy (ART). They found that prior exposure to sdNVP was associated with an increased risk of subsequent ART failure, but that this risk was largely confined to women with a more recent exposure. sdNVP-exposed women in whom this interval was

more than 12 months had essentially the same prevalence of failure at 48 weeks as women without prior exposure. The researchers conclude that women requiring ART within 12 months of sdNVP exposure should not be prescribed ART that includes nevirapine or efavirenz.

These findings suggest that, provided NNRTI-containing ART is not given to HIV-positive women within a year of nevirapine exposure, single-dose nevirapine can be safely used to prevent MTCT without substantially compromising the mother's future antiretroviral treatment options. The authors point out that liberalizing the criteria for starting full ART in pregnant women would ensure that most women receiving sdNVP would not need ART for at least a year. In the occasional circumstance where a woman did need therapy soon after single-dose NVP exposure, a protease inhibitor-containing regimen or a triple nucleoside regimen could be prescribed.

More information: Stringer JSA, McConnell MS, Kiarie J, Bolu O, Anekthananon T, et al. (2010) Effectiveness of Non-nucleoside Reverse-Transcriptase Inhibitor-Based Antiretroviral Therapy in Women Previously Exposed to a Single Intrapartum Dose of Nevirapine: A Multi-country, Prospective Cohort Study. PLoS Med 7(2): e1000233. doi:10.1371/journal.pmed.1000233

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