Risk factors for postnatal mother-child transmission of HIV-1.

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Abstract

OBJECTIVE:

To identify factors affecting HIV-1 breastfeeding transmission.

DESIGN:

Longitudinal observational cohort study.

METHODS:

HIV-1 seropositive pregnant women and seronegative controls were enrolled at a maternity hospital in Nairobi. Women and their children were followed from birth, and data on HIV-1 transmission, breastfeeding, clinical illness, and growth were collected. Specimens for HIV-1 serology and/or polymerase chain reaction were obtained at birth, 2, 6, and 14 weeks, 6, 9, 12, and 18 months, and every 6 months thereafter. Children were classified as HIV-1 uninfected, perinatally, or postnatally infected. Potentially breastfeeding transmission related risk factors were compared between postnatally infected and uninfected children.

RESULTS:

Among children born to seropositive or seroconverting mothers, 317 were uninfected, 51 infected perinatally and 42 infected postnatally. Identified risk factors for postnatal transmission were maternal nipple lesions (OR = 2.3, CI 95% 1.1-5.0), mastitis (OR = 2.7, CI 95% 1.1-6.7), maternal CD4 cell count < 400 mm3 (OR = 4.4, CI 95% 1.9-9.9), maternal seroconversion while breastfeeding (OR = 6.0, CI 95% 1.8-19.8), infant oral thrush at < 6 months of age (OR = 2.8, CI 95% 1.3-6.2) and breastfeeding longer than 15 months (OR = 2.4, CI 95% 1.2-5.1). All factors, except maternal seroconversion due to its rarity, were independently associated with an increased postnatal transmission risk by multivariate logistic regression analysis.

CONCLUSION:

In addition perinatal antiretroviral therapies, public health strategies should address: (i) prevention of maternal nipple lesions, mastitis and infant thrush; (ii) reduction of breastfeeding
duration by all HIV-1-infected mothers; (iii) absolute avoidance of breastfeeding by those at high risk, and (iv) prevention of HIV-1 transmission to breastfeeding mothers.

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