

VIROLOGIC AND IMMUNOLOGIC OUTCOMES IN HIV-INFECTED CAMBODIAN CHILDREN AFTER 18 MONTHS OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART)

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Abstract. This observational cohort study was conducted among HIV-infected, antiretroviral therapy (ART) naive children in Phnom Penh, Cambodia, to evaluate the feasibility and efficacy of highly active antiretroviral therapy (HAART) delivered using a modified directly observed therapy (MDOT) protocol. From August 2004 to March 2006, 26 children were enrolled and started on a first-line HAART regimen, which was continued for 18 months. The study included a directly observed therapy phase (months 1-3) and a medication self-administration phase (months 4-18). CD4 percentage (CD4%) and HIV-1 RNA plasma viral load (PVL) were measured at baseline and at months 6, 12, and 18. At baseline, the median age was 5.5 years (range: 13 months-12 years), the median CD4% was 4, and the median PVL was 7.5×10^5 copies/ml. At 18 months, 23 (88%) children were alive and participating in the study. Of these children, 20 (87%) had a PVL <400 copies/ml and 12 (52%) had PVL <50 copies/ml. The median CD4% increased to 23, while the median change in height-for-weight z-score was 0.64. Genotypic resistance typing in 2 children with PVL >400 copies/ml at 18 months demonstrated mutations associated with resistance to lamivudine (M184V) and non-nucleoside reverse transcriptase inhibitors (Y181C and G190A). The virologic and immunologic outcomes achieved in this study compare favorably with those reported by other pediatric HIV treatment programs worldwide. The study results suggest that MDOT may be effective for HAART administration in limited-resource settings like Cambodia.

Key words: HIV-infected children, ART, HAART, PVL, genotypic resistance

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