

HIV Seronegativity in Perinatally-Acquired HIV-infected Thai Children and Adolescents

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ABSTRACT

Backgrounds

Early initiation of combination antiretroviral therapy (cART) with long-term viral suppression may lead to seronegativity in perinatally-acquired HIV-infected children.

Objectives

To determine the frequency and associated factors of seronegativity in perinatally HIV-infected children and adolescents in routine setting.

Methods

A cross-sectional HIV serologic test was performed in children and adolescents two years or older who were receiving cART with undetectable HIV-RNA for at least one year. Medical records were extracted for multivariate analysis of independent factors for seronegativity.

Results

Of 110 patients, median (range) age was 13.4 (4.8-26.6) years, 8 (7.3%) were seronegative, and 1 (0.9 %) was inconclusive. The seronegative group had younger median age of cART initiation 0.25 (0.1-1.0) vs 3.3 (0.2-17.3) years, $p < 0.001$; shorter median duration from cART initiation to viral suppression: 1.4 (0.6-3.5) vs 4.6 (0.1-17.9) years, $p = 0.018$; higher median nadir CD4 cell counts: 619 (220-876) vs 282 (2-1707) cells/ μL , $p = 0.019$; and higher median HIV viral load before cART initiation: 1,706,144 (56,400-10,000,000) vs 195,543 (40-9,412,987) copies/mL, $p = 0.017$.

Multivariate analysis identified younger age of cART initiation (aOR 0.02, 95%CI 0.004-0.85, $p = 0.041$) and shorter time to viral suppression after cART initiation (aOR 0.60, 95%CI 0.41-0.89, $p = 0.01$) as independent factors associated with HIV seronegativity. Half of the infants initiated cART at <12 weeks were seronegative.

Conclusion

HIV seronegativity was observed in some perinatally-acquired HIV infected children and adolescents who initiated cART in infancy with rapid and sustainable virologic clearance. Awareness of this phenomenon would avoid inappropriate treatment interruption.

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