Immune reconstitution and predictors of virologic failure in adolescents infected through risk behaviors and initiating HAART: week 60 results from the PACTG 381 cohort.

The responses to HAART in HIV-infected adolescents infected through risk behaviors are not well defined. PACTG 381 collected intensive immunologic and virologic data on youth naive to or with minimal exposure to antiretroviral therapy who began HAART. Subjects were evaluated according to their weeks 16-24 virologic response. Comparisons with a cohort of HIV-uninfected adolescents from the REACH cohort were performed. Cox proportional hazards models were used to identify baseline and week 24 predictors of virologic failure. Only 69 of 120 subjects (58%) achieved virologic suppression by weeks 16-24, whereas 55 of 69 (80%) demonstrated control to week 60. Higher CD4+ naive T cells (CD4+/62L+/RA+: hazard ratio [HR], 2.13; p = 0.018), higher CD8+ activated T cells (CD8+CD38+/DR+: HR, 1.40, p = 0.028 per 100 cells/mm3) and higher CD8+ naive T cells (CD8+/62L+/RA+: HR, 1.72; p = 0.005) at weeks 16-24 in subjects with early viral success were predictive of subsequent failure. By week 60, total CD4+ T cells remained significantly lower than in uninfected controls. Adolescents beginning HAART achieve moderate rates of viral suppression by weeks 16-24. In those who do achieve early virologic control, suppression to
week 60 is high although total CD4+ T cells remain significantly lower than in uninfected controls. Several T cell markers were predictive of subsequent virologic failure in subjects achieving short-term success. Further study is warranted to determine whether these predictors provide any benefit to clinical management.

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