**Lipid Changes in Kenyan HIV-1-Infected Infants Initiating Highly Active Antiretroviral Therapy by One Year of Age.**

Langat, A; Benki-Nugent, S; Wamalwa, D; Tapia, K; Ngugi, Elizabeth N; Diener, L; Richardson, BA; Melvin, A; John-Stewart, GC

Date: 2013-02

**Abstract:**

BACKGROUND:: Early highly active antiretroviral therapy (HAART) is recommended for HIV-1 infected infants. There are limited data on lipid changes during infant HAART.

METHODS:: Non-fasting total (TC), low density lipoprotein (LDL), and high density lipoprotein (HDL) cholesterol, and triglycerides (TG) were measured at 0, 6 and 12 months. Correlates of lipid levels and changes post-HAART were assessed using linear regression.

RESULTS:: Among 115 infants, pre-HAART median age was 3.8 months, CD4% was 19%, and weight-for-age z-score (WAZ) was -2.42. Pre-HAART median lipid levels were: TC, 108.7 mg/dl, LDL, 42.5 mg/dl, HDL, 29.4 mg/dl and TG, 186.9 mg/dl. Few infants had abnormally high TC (6.2%) or LDL (5.6%), but many had low HDL (76.5%) or high TG (69.6%). Higher pre-HAART WAZ and HAZ were each associated with higher pre-HAART TC (P=0.04 and P=0.01) and LDL (P=0.02 and P=0.008). From 0-6 months post-HAART, TC (P<0.0001), LDL (P<0.0001), and HDL (P<0.0001) increased significantly, and 23.1% (P=0.002), 14.0% (P=0.2), 31.3% (P<0.0001), and 50.8% (P=0.2) of infants had abnormally high TC, high LDL, low HDL, and high TG, respectively. Changes in TC and HDL were each associated with higher gain in WAZ (P=0.03 and P=0.01) and HAZ (P=0.01 and P=0.007). Increased change in LDL was associated with higher gain in HAZ (P=0.03). Infants on protease inhibitor (PI)-HAART had smaller HDL increase (P=0.004).

CONCLUSIONS:: Infants had substantive increases in lipids, which correlated with growth. Increases in HDL were attenuated by PI-HAART. It is important to determine clinical implications of these changes.