

# Albendazole treatment of HIV-1 and helminth co-infection: A randomized, double blind, placebo-controlled trial

## Abstract:

Several co-infections have been shown to impact the progression of HIV-1 infection. We sought to determine if treatment of helminth co-infection in HIV-1 infected adults impacted markers of HIV-1 disease progression. DESIGN To date there have been no randomized trials to examine the effects of soil-transmitted helminth eradication on markers of HIV-1 progression. METHODS A randomized, double-blind, placebo-controlled trial of albendazole (400mg daily for three days) in antiretroviral-naïve HIV-1 infected adults (CD4 >200 cells/mm<sup>3</sup>) with soil-transmitted helminth infection was conducted at ten sites in Kenya (Clinical Trials.gov NCT00130910). CD4 and plasma HIV-1 RNA levels at 12 weeks following randomization were compared in the trial arms using linear regression, adjusting for baseline values. RESULTS Of 1,551 HIV-1 infected individuals screened for helminth-infection, 299 were helminth-infected. 234 adults were enrolled and underwent randomization and 208 individuals were included in intent-to-treat analyses. Mean CD4 count was 557 cells/mm<sup>3</sup> and mean plasma viral load was 4.75 log<sub>10</sub> copies/mL at enrolment. Albendazole therapy resulted in significantly higher CD4 counts among individuals with *Ascaris lumbricoides* infection after 12 weeks of follow up (+109 cells/mm<sup>3</sup>; 95% CI +38.9 to +179.0, p=0.003) and a trend for 0.54 log<sub>10</sub> lower HIV-1 RNA levels (p=0.09). These effects were not seen with treatment of other species of soil-transmitted helminths. CONCLUSIONS Treatment of *A. lumbricoides* with albendazole in HIV-1 co-infected adults resulted in significantly increased CD4 counts during 3-month follow-up. Given the high prevalence of *A. lumbricoides* infection worldwide, deworming may be an important potential strategy to delay HIV-1 progression.