

Abstract Number: 342

Control Number: 2009-AB-1097-IDSA
Session Type: Poster Session
Session Number: 052
Session Title: HIV
Location: Poster Hall A
Session Time: Friday, October 30, 2009, 12:30 pm - 2:00 pm

Publishing Title: Obesity among HIV-Infected Persons: Impact of Weight on CD4 Cell Counts

Author Block: NANCY F. CRUM-CIANFLONE, MD MPH, MOLLIE ROEDIGER, MS, LYNN E. EBERLY, PhD, ANURADHA GANESAN, MD, AMY WEINTROB, MD, MICHAEL LANDRUM, MD, ROBERT V. BARTHEL, MD, KURT VYAS, BA, BRIAN AGAN, MD, and the Infectious Disease Clinical Research Program; Infectious Disease Clinical Research Program, Bethesda, MD.

Abstract Body: **Background:** As HIV-infected persons experience longer life expectancies during the HAART era, rates of obesity have dramatically risen. The effect of excess weight on CD4 counts among HIV patients is unknown.

Methods: We examined documented HIV seroconverters (mean window 15.7 months) in a prospective Natural History Study during 1986-2008. Body mass index (BMI) was categorized as underweight (<18.5 kg/m²), normal (18.5-24.9), overweight (25-29.9), and obese (>30). We estimated the association of time-updated BMI category with changes in CD4 counts from HIV diagnosis across time (mean follow-up of 4.6 years) using longitudinal linear mixed effects models adjusted for demographics, time, seroconversion window, baseline RNA and CD4 counts, and cumulative time on antiretroviral therapy.

Results: Of 1,119 HIV seroconverters, 441 (39%) were overweight and 96 (9%) obese at HIV diagnosis. The mean age was 29 years, 96% were male, 41% were African American and 44% Caucasian. Mean CD4 counts at HIV diagnosis were 526, 551, 542, and 499 cells/m³ for underweight, normal, overweight, and obese patients, respectively (p=0.31). Results were similar within the pre-HAART and HAART eras. In the multiply adjusted longitudinal models for those diagnosed in the pre-HAART era, mean post-diagnosis decrease in CD4 count was less as BMI category increased: -158, -125, -95, and -50 cells/mm³, respectively (p<0.001). Among patients diagnosed in the HAART era, the mean post-diagnosis change in CD4 count was -1, +103, +116, and +69 cells/mm³, respectively (p<0.001). Obese compared to normal weight HIV patients had significantly smaller increases in CD4 count (p=0.02).

Conclusion: Although higher BMI was associated with less reduction in CD4 counts over time in the pre-HAART era, excessive weight was not similarly associated with benefit in the HAART era. Being either underweight or obese in the HAART era was associated with smaller CD4 count rises. These data suggest that lower CD4 counts may be another adverse consequence of obesity.

Author Disclosure Block: N. F. Crum-Cianflone, None..M. Roediger, None..L. E. Eberly, None..A. Ganesan, None..A. Weintrob, None..M. Landrum, None..R. V. Barthel, None..K. Vyas, None..B. Agan, None.