

EV0019

ePoster Viewing

HIV/AIDS (incl anti-retroviral drugs, treatment & susceptibility/resistance, diagnostics & epidemiology)

Immunologic and virologic outcomes of obese and non-obese HIV-infected incarcerated adults

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Background: Obesity is common among HIV-infected adults at diagnosis and after initiation of antiretroviral therapy (ART). Although obesity itself does not have a deleterious effect on HIV disease progression, the pharmacokinetics of ART in obesity have not been well characterized. It is unclear whether alterations in plasma concentrations related to obesity affect immunologic recovery or virologic suppression. Cohort studies of obese HIV-infected adults have not investigated the relationship between clinical outcomes and specific antiretrovirals.

The objective of this study was to characterize clinical response to ART in a cohort of obese incarcerated HIV-infected adults compared to a non-obese matched cohort. The incarcerated population is unique for retrospective studies as access to ART is consistent and adherence can be explicitly monitored. We hypothesized that pharmacokinetic alterations in obese patients would lead to lower rates of virologic suppression compared to non-obese patients receiving the same antiretroviral regimen.

Material/methods: A retrospective matched cohort study of HIV-infected adult inmates incarcerated in the Illinois Department of Corrections was conducted in the telemedicine clinic at the University of Illinois at Chicago. Patients with BMI > 30 kg/m² were identified by clinic records and a time frame was selected such that patients were receiving the same ART with > 95% adherence for at least six months. Obese patients were matched to non-obese patients by the following parameters: (1) age within 20 years; (2) gender; (3) antiretroviral regimen; (4) CD4 count at baseline < 200 cells/mm³, 200-500 cells/mm³, or > 500 cells/mm³; and (4) viral load < 75 copies/mL, 75-20,000 copies/mL and > 20,000 copies/mL. Patients were excluded if height was not available for BMI calculation or if a control could not be identified.

Results: Twenty matched pairs were available for analysis with an average BMI in the non-obese cohort of 24 kg/m² and in the obese cohort of 35 kg/m². Characteristics of the cohort are summarized in Table 1. There was no difference between groups in the proportion of patients who achieved virologic suppression (95%) or in the change in CD4 count from baseline at 12 month follow-up (+30 versus +61 cells/mm³, p= 0.79).

Table 1: Baseline Characteristics of Cohort

Age (years)	41 ± 11
Gender	Women: 14 (7 pairs) Men: 26 (13 pairs)
Baseline CD4 (cells/mm ³)	593 ± 413

Baseline CD4 < 200 cells/mm ³ (number of patients)	4/40 (10%)
Baseline virologic suppression (number of patients) ⁺	30/40 (75%)
ART regimen (number of patients)	NRTI + NNRTI: 26 (65%) NRTI + boosted PI: 10 (25%) NRTI + INSTI: 4 (10%)

Continuous variables: mean ± standard deviation
+ virologic suppression: < 75 copies/mL

Conclusions: This matched cohort study revealed no differences in immunologic recovery or virologic suppression between obese and non-obese patients in an adult correctional population.