

# 5th International Workshop on Adverse Drug Reactions and Lipodystrophy in HIV



8–11 July 2003, Le Meridien Montparnasse, Paris, France

## TRUNK FAT IS CONSERVED WITH PI-BASED HAART, BUT NOT WITH NON-PI-BASED HAART, IN HIV-INFECTED WOMEN IN THE USA: DEXA SUB-STUDY IN THE WOMEN'S INTERAGENCY HIV STUDY

*Antiviral Therapy* 2003; 8:L14 (abstract 15)

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**OBJECTIVES:** Surveys in HIV-infected men on antiretroviral therapy (ART) consistently demonstrate decreased levels of peripheral fat, but effects on central fat are more variable. It is not known whether similar patterns exist in HIV-infected women, many of whom in the USA are obese. These questions were addressed in a cross-sectional sub-study of fat distribution in the Women's Interagency HIV Study (WIHS), a multicentre cohort study that includes a seronegative group matched for racial demographics and risk factors.

**METHODS:** Non-pregnant women underwent wholebody DEXA scanning with standardized regional analysis. Women on hormone replacement or systemic glucocorticoids were excluded. Results were compared in the following groups: HIV-negative (HIV-;  $n=78$ ), HIV-positive not on ART (HIV+/noART;  $n=57$ ), HIV-positive on highly active ART with a protease inhibitor (HAART/PI;  $n=36$ ), and HIV-positive on non-PI containing HAART (HAART/noPI;  $n=43$ ). Values for regional fat are expressed as g/cm height. Data are mean  $\pm$ SE.

**RESULTS:** The groups were well matched with respect to race (49 and 47% African American; 40 and 40% Hispanic in HIV-positive and HIV-negative, respectively). HIV-positive women were slightly older ( $41 \pm 1$  vs  $38 \pm 1$  years;  $P<0.001$ ). The majority of both HIV-positive and HIV-negative women were overweight, and many were obese (BMI  $\geq 25$  kg/m<sup>2</sup> in 66 and 75%; and  $\geq 30$  kg/m<sup>2</sup> in 35 and 51% in HIV-positive and HIV-

negative, respectively). BMI and total and regional fat did not differ significantly between HIV+/noART and HIV-, showing no effect of HIV infection *per se*. Both trunk and leg fat were significantly lower in HAART/NoPI ( $69.2 \pm 4.4$  and  $48.2 \pm 4.0$  g/cm, respectively) than in both HIV- ( $94.2 \pm 4.5$  and  $74.8 \pm 3.5$  g/cm) and HIV+/noART ( $84.6 \pm 5.1$  and  $68.7 \pm 4.4$  g/cm);  $P < 0.001$  comparing HAART/noPI with HIV- for both trunk and leg fat;  $P < 0.001$  and  $= 0.02$  comparing HAART/noPI with HIV+/noART for trunk and leg fat, respectively. In contrast, in HAART/PI, only leg fat ( $59.3 \pm 4.6$  g/cm) was significantly lower than HIV- ( $P = 0.01$ ); trunk fat ( $84.5 \pm 6.4$  g/cm) did not differ significantly from either HIV- or HIV+/noART.

**CONCLUSIONS:** Consistent with reports in men, lower levels of peripheral (leg) fat are seen in HIV-infected women on HAART, despite the high prevalence of obesity in this population. Conservation of trunk fat appears to be unique to PI-containing HAART.

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2003-07-08  
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