

3rd International Workshop on Adverse Drug Reactions and Lipodystrophy in HIV



23-26 October 2001, Athens, Greece

ANTHROPOMETRY DISTINGUISHES BETWEEN HIV-POSITIVE MEN AFFECTED AND UNAFFECTED WITH VISCERAL ADIPOSITY

Antiviral Therapy 2001; 6(Suppl. 4):33 (abstract no. 44)

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INTRODUCTION: Many patients with HIV-associated lipodystrophy exhibit abnormal accumulation of visceral adipose tissue (VAT) or visceral adiposity (VA). Due to the discomfort, stigma and potential contribution of VA to cardiovascular morbidity, efforts are underway to devise treatments to reduce HIV-related VA. In order to refine eligibility criteria for a trial of recombinant growth hormone (r-hGH, or Serostim) for HIV-positive patients with VA, we sought to develop simple and reliable metrics to define the affected population.

METHODS: All HIV-positive men ($n=49$) had VAT quantified volumetrically (as VAT_{vol}) by whole-body magnetic resonance imaging (MRI). Their waist (WC) and hip circumferences (HC) were measured by standard methodology. Waist-hip ratios (WHR) were calculated. The discriminant function (DF) equation earlier derived from the first 20 HIV-positive men diagnosed clinically with VA and eight without VA was tested in two further groups of HIV-positive men with ($n=11$) and without ($n=10$) VA.

RESULTS: The DF equation to predict HIV-positive men who have excess VAT_{vol} was $Z = 0.026*WC + 3.16*WHR$, with allocation to VA if $Z \geq 26.3$. In the first model, the DF equation was 100% specific and 85.7% sensitive for the diagnosis of VA. In an independent validation group of 21 HIV-positive men, the DF equation was 64% sensitive and 70% specific for predicting increased VAT_{vol}.

CONCLUSIONS: In these HIV-positive men, there was correspondence between an anthropometric equation and excess VAT quantified on total body MRI. Hence, simple and convenient anthropometric measures provide a reasonable degree of accuracy in

defining men with VA who might be included in clinical trials to reduce VAT. Further research is required to refine these equations in larger groups of men, validate equations in women, and produce normal, demographically adjusted ranges for VAT.

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