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METABOLIC SYNDROME IN HIV-INFECTED PATIENTS USING IDF AND ATP III CRITERIA: PREVALENCE, DISCORDANCE AND CLINICAL UTILITY

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BACKGROUND: Metabolic Syndrome (MS) is a risk factor for cardiovascular disease and type 2 diabetes. Case definitions of MS exist to identify those 'at risk'. Which case definition should be used to diagnose MS is unclear.

AIMS: We examined MS prevalence using International Diabetes Federation (IDF) and ATP III criteria in the HIV Lipodystrophy (LD) Case Definition study cohort of 788 HIV+ adults (417 LD cases, 371 controls) recruited at 32 centres globally. MS was related to body composition (whole-body DEXA, abdominal CT) and fasting lipids, glycaemic parameters, adiponectin, leptin, and C-reactive protein (CRP).

RESULTS: The prevalence of MS was 14% ($n=114$, 83 males) by IDF and 18% ($n=139$, 118 males) by ATP III; the concordance was significant but only moderate ($\kappa=0.46$; $P<0.0001$). MS was significantly associated with a longer duration of protease inhibitor therapy, but not of all antiretroviral therapy. As expected, those with MS by either definition had higher body mass index, waist:hip ratio, total body fat, visceral fat, systolic and diastolic blood pressures and triglycerides, lower HDL cholesterol, and more insulin resistance and diabetes. About 50% of patients, however, particularly those with objectively defined lipodystrophy, had all the metabolic features of MS, but were not classified as having MS as their waist circumference or waist to hip ratios were within the non-MS range. Subjects with MS had higher CRP (5.5 ± 7.0 versus 3.9 ± 6.0 mg/l, $P=0.03$), lower adiponectin (12 ± 8 versus 15 ± 10 mmol/l, $P=0.04$) and higher leptin levels (9 ± 9 versus 4 ± 6 mmol/l, $P<0.0001$).

CONCLUSIONS: The prevalence of MS in this cohort of HIV+ adults by the IDF criteria was 14% and 18% by ATP III criteria. These rates are similar to those seen in the general population, but many subjects without MS, particularly those with lipodystrophy, had the metabolic (particularly lipid) aberrations of MS. The IDF and ATP III definitions of MS may be insensitive tools for the maximal detection of cardiovascular and diabetic risk in HIV-infected adults.

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