



# 1st International Workshop on Adverse Drug Reactions and Lipodystrophy in HIV

26–28 June 1999 - San Diego, CA, USA

## A SYNDROME OF LIPODYSTROPHY (LD), LACTIC ACIDAEMIA AND LIVER DYSFUNCTION ASSOCIATED WITH HIV NUCLEOSIDE ANALOGUE REVERSE TRANSCRIPTASE INHIBITOR THERAPY: CONTRIBUTION TO PI-RELATED LD SYNDROME

*Antiviral Therapy* 1999; 4(Suppl. 2):33 (abstract no. 11)

A Carr<sup>1</sup>, J Miller<sup>2</sup>, M Law<sup>2</sup> and DA Cooper<sup>1,2</sup>

<sup>1</sup> St Vincent's Hospital; and <sup>2</sup> National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, Australia

---

**BACKGROUND:** Peripheral lipodystrophy (LD), central adiposity, hyperlipidaemia and insulin resistance often complicate therapy including a protease inhibitor (PI). LD and abdominal distension were observed in PI-naïve NRTI recipients, together with lactic acidemia (>2.0 mmol/l) and hepatic impairment, known NRTI-induced mitochondrial toxicities.

**OBJECTIVE:** To determine the role of NRTI therapy in LD.

**METHODS:** Fourteen NRTI patients with LD (mean 61 months therapy) were compared with 32 drug-naïve patients without LD, 28 NRTI patients without LD, 44 NRTI+PI patients without LD, and 102 NRTI+PI patients with LD. Body composition was assessed by patient questionnaire, physical exam, DEXA and abdominal CT, with biochemical, lipid and glycaemic parameters.

**RESULTS:** NRTI LD syndrome was characterized by recent onset fatigue and nausea, peripheral LD (mean 6 kg loss over 4 months), abdominal distension (hepatomegaly with or without ascites) and elevated serum lactate (mean 4.6, 1.1, 1.2, 1.4 and 1.7 mmol/l, respectively;  $P < 0.0001$  for case group versus each control group) and liver enzymes. Metabolic disturbances improved after NRTI cessation but weight gain was limited. Although physically indistinguishable, NRTI-LD differed from PI-LD by recent onset symptoms and weight loss, higher lactate and ALT, and lower albumin, cholesterol, triglycerides, glucose and insulin. In treated controls, PI duration ( $P \leq 0.007$ ) and lactic

acidaemia ( $P \leq 0.05$ ) were independently associated with both LD and central obesity; current stavudine use ( $P < 0.001$ ) and total NRTI duration were also associated with LD, lamivudine duration with central obesity and both lamivudine and PI duration with buffalo hump.

**CONCLUSIONS:** A syndrome of LD, constitutional symptoms, lactic acidaemia and hepatic dysfunction can complicate long term NRTI therapy. Both PI and NRTI therapy, particularly if associated with lactic acidaemia, can contribute to HIV LD syndrome, but PI therapy and NRTI therapy cause distinguishable clinical and metabolic features.

990626  
11

Copyright © 1999 - [International Medical Press Ltd.](#) Reproduction of this abstract (other than one copy for personal reference) must be cleared through the International Medical Press Ltd. 2-4 Idol Lane, London EC3R 5DD UK.