

# Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

## IMPACT OF HIV AND HAART ON MEN'S SERUM LIPID LEVELS

Investigators compared pre- and post-seroconversion serum cholesterol levels of 50 men to determine how HIV infection and highly active antiretroviral therapy (HAART) affect cholesterol levels. Participants identified from the Multicenter AIDS Cohort were seroconverters who had stored serum samples from pre-seroconversion, post-seroconversion but pre-HAART, and post-HAART. Mean age at pre-seroconversion was  $35 \pm 8$  years. Mean total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), and low-density lipoprotein cholesterol (LDL-C) were  $203 \pm 48$  mg/dL,  $52 \pm 14$  mg/dL, and  $121 \pm 37$  mg/dL, respectively, and were comparable to mean values in men aged 20 years or older from the Third National Health and Nutrition Examination Survey (NHANES III). After HIV infection, notable decreases were observed in TC ( $-30$  mg/dL), HDL-C ( $-12$  mg/dL), and LDL-C ( $-22$  mg/dL). Following HAART initiation, levels of TC and LDL-C increased 50 and 21 mg/dL, respectively (from before HAART initiation to the third visit after HAART initiation). However, the difference between pre-seroconversion and post-HAART levels in LDL-C was  $-1$  mg/dL (95% confidence interval [CI],  $-25$  to 22) and in TC was 20 mg/dL (95% CI,  $-1$  to 41), which is comparable to the 15 mg/dL increase seen in men aged 35 years and older from NHANES III. Mean HDL-C remained below baseline levels despite HAART. Post-HAART increases in TC and LDL-C possibly represent a return to preinfection serum lipid levels when accounting for expected age-related changes.

Riddler SA, Smith E, Cole SR, et al. Impact of HIV infection and HAART on serum lipids in men. *JAMA* 2003;289:2978–82.

## LACTIC ACIDOSIS RISK FACTORS IN HIV PATIENTS RECEIVING NUCLEOTIDE REVERSE-TRANSCRIPTASE INHIBITORS

The authors performed a case-controlled study to determine risk factors for lactic acidosis in HIV-infected patients receiving nucleotide reverse-transcriptase inhibitor (NRTI) therapy in France. Between May 1996 and June 2000, 9 HIV-infected patients with lactic acidosis were identified. Control patients were randomly selected from a cohort of patients taking a dual NRTI regimen in 1996 or later. For each patient, data were collected relating to the time between starting antiretroviral therapy (ART) and either the date lactic acidosis was diagnosed (case patients) or the date of last follow-up (control patients). These data included age; sex; known HIV duration; hepatitis B and C status; cirrhosis status; creatinine clearance determined either 1 month before diagnosis (case patients) or quarterly during follow-up (control patients); CD4+ T lymphocyte count at nadir

and last follow-up; and cumulative duration of exposure to ART drugs. Two factors were associated with lactic acidosis: creatinine clearance below 70 mL/min before lactic acidosis occurs (odds ratio [OR], 15.8 [range, 3.0–86.5];  $P < 10^{-4}$ ) and a low nadir CD4+ T lymphocyte count before initiating NRTI therapy (OR, 8.4 [range, 1.2– $\infty$ ];  $P = .03$ ). These results suggest that monitoring creatinine clearance, especially in patients with a low nadir CD4+ T lymphocyte count, may allow for modification of ART and a lowered incidence of lactic acidosis.

Bonnet F, Bonarek M, Moriat P, et al. Risk factors for lactic acidosis in HIV-infected patients treated with reverse-transcriptase inhibitors: a case-control study. *Clin Infect Dis* 2003;36:1324–8.

## ASSOCIATION OF HEPATITIS C AND ANTIRETROVIRAL THERAPY WITH DIABETES IN DRUG USERS

Researchers conducted a cross-sectional analysis of factors associated with diabetes among drug users to determine the relationship of hepatitis C virus (HCV) infection, protease inhibitor (PI) use, and diabetes. Data collection included participants' sociodemographic characteristics and medical history. Of the 557 participants, 418 were HCV infected, 228 were HIV infected, 203 were HIV/HCV infected, and 72 had diabetes. Only 110 HIV-infected participants reported any PI use. Diabetes was more prevalent among HCV-infected patients than those uninfected (15% versus 6%;  $P = .004$ ). HCV infection was independently associated with diabetes (adjusted OR, 2.9 [95% CI, 1.3–6.4]) and remained significant when stratifying for HIV status. In HIV-seronegative patients, diabetes was more prevalent in HCV-infected patients than those uninfected (17% versus 7%;  $P = .01$ ). Similarly, diabetes was more prevalent in HCV/HIV-infected patients than in solely HIV-infected patients (13% versus 0%;  $P = .052$ ). Compared with patients taking ART for less than 1 year, patients taking ART without a PI for more than 1 year were 4 times as likely to have diabetes (adjusted OR, 4.1 [95% CI, 1.1–15.5]), and patients taking ART with a PI were more than 5 times as likely to have diabetes (adjusted OR, 5.5 [95% CI, 1.5–20.4]). Diabetes was more prevalent among drug users with HCV infection and among those who had received ART for more than 1 year.

Howard AA, Klein RS, Schoenbaum EE. Association of hepatitis C infection and antiretroviral use with diabetes mellitus in drug users. *Clin Infect Dis* 2003;36:1318–23.

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