Factors associated with the incidence of type 2 diabetes mellitus in HIV-infected participants in the Swiss HIV Cohort Study

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BACKGROUND: Human immunodeficiency virus (HIV)-infected persons may be at increased risk for developing type 2 diabetes mellitus because of viral coinfection and adverse effects of treatment. METHODS: We studied associations of new-onset diabetes mellitus with hepatitis B virus and hepatitis C virus coinfections and antiretroviral therapy in participants in the Swiss HIV Cohort Study, using Poisson regression. RESULTS: A total of 123 of 6513 persons experienced diabetes mellitus during 27,798 person-years of follow-up (PYFU), resulting in an incidence of 4.4 cases per 1000 PYFU (95% confidence interval [CI], 3.7-5.3 cases per 1000 PYFU). An increased incidence rate ratio (IRR) was found for male subjects (IRR, 2.5; 95% CI, 1.5-4.2), older age (IRR for subjects >60 years old, 4.3; 95% CI, 2.3-8.2), black (IRR, 2.1; 95% CI, 1.1-4.0) and Asian (IRR, 4.9; 95% CI, 2.2-10.9) ethnicity, Centers for Disease Control and Prevention disease stage C (IRR, 1.6; 95% CI, 1.04-2.4), and obesity (IRR, 4.7; 95% CI, 3.1-7.0), but results for hepatitis C virus infection or active hepatitis B virus infection were inconclusive. Strong associations were found for current treatment with nucleoside reverse-transcriptase inhibitors (IRR, 2.22; 95% CI, 1.11-4.45), nucleoside reverse-transcriptase inhibitors plus protease inhibitors (IRR, 2.48; 95% CI, 1.42-4.31), and nucleoside reverse-transcriptase inhibitors plus protease inhibitors and nonnucleoside reverse-transcriptase inhibitors (IRR, 3.25; 95% CI, 1.59-6.67) but were not found for treatment with nucleoside reverse-transcriptase inhibitors plus nonnucleoside reverse-transcriptase inhibitors (IRR, 1.47; 95% CI, 0.77-2.82). CONCLUSIONS: In addition to traditional risk factors, current treatment with protease inhibitor- and nucleoside reverse-transcriptase inhibitor-containing regimens was associated with the risk of developing type 2 diabetes mellitus. Our study did not find a significant association between viral hepatitis infection and risk of incident diabetes.