

Poster presentation

Contribution of antiretroviral therapy, cardiovascular risk factors and constituents of metabolic syndrome to insulin resistance (IR) in HIV

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from Ninth International Congress on Drug Therapy in HIV Infection
Glasgow, UK. 9–13 November 2008

Published: 10 November 2008

Journal of the International AIDS Society 2008, **11**(Suppl 1):P100 doi:10.1186/1758-2652-11-S1-P100

This abstract is available from: <http://www.jiasociety.org/content/11/S1/P100>

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Purpose of the study

To assess the association between antiretroviral therapy, cardiovascular risk factors and constituents of metabolic syndrome to IR.

Methods

We studied all patients who had a visit in our outpatient HIV clinic during 2007. The following data were collected: age at diagnosis of HIV infection, gender, country of origin, smoking status, HCV co-infection, HIV risk group, AIDS diagnosis, CD4+ cell count, HIV viral load, fasting glucose and insulin levels, lipid profile, blood pressure, waist circumference, BMI and present HAART. We used the HOMA index to assess insulin resistance, choosing as cut-off point 3.8. The IDF criteria have been used to define increased waist circumference, hypertension, hypertriglyceridemia, low HDL cholesterol and hyperglycemia. We assessed the association of these variables with IR using a multivariate logistic regression predictive model. Blood glucose value was not taken into account in the analysis since it is embedded in the HOMA index. Discriminating power of the model was analyzed by means of a receiver operating curve (ROC). The effect measure was the adjusted odds-ratio with 95% confidence interval (CI).

Summary of results

128 patients were analyzed. Median HOMA index was 2.12 (IQR 1.26–3.39). 75% were males and median age

was 43 years (IQR 39–46). Viral load was below 50 copies in 78% and median CD4+ count was 397 cel/microL. Only 8.6% were immigrants. The most prevalent HIV risk group was intravenous drug use (IDU) (57.8%). 25% had an AIDS diagnosis and HCV co-infection rate was 64.1%. Metabolic syndrome, as defined by IDF criteria, was present in 29.6%. Moreover, 74.2% were smokers. 49% were taking PI, 34.4% NNRTI and 16.4% NRTI. Hypertension (OR 2.92, 95% CI 1.04–8.22, $P = 0.042$), hypertriglyceridemia (OR 2.88, 95% CI 1.01–8.19, $P = 0.047$), increased waist circumference (OR 8.33, 95% CI 2.53–27.5, $P = 0.0001$) and smoking (OR 3.56, 95% CI 1.03–12.38, $P = 0.046$) were associated with an increased risk of IR. HCV co-infection and HAART were not associated with IR. The model showed a high predictive power (AUC 0.79, 95% CI 0.69–0.88, $P = 0.0001$).

Conclusion

1. Patients with HIV infection in our cohort had a higher prevalence of metabolic syndrome than the prevalence in the Spanish population (19.3% according to WHO); 2. These patients have an increased cardiovascular risk due to high smoking rate; 3. The four factors associated with IR in HIV patients are hypertension, increased waist circumference, hypertriglyceridemia and smoking.

References

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