

Poster presentation

## HIV and antioxidant lipoprotein-associated effect. Is there a correlation?

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### Purpose of the study

HIV-patients often develop long-term pro-atherogenic metabolic alterations. HDL-cholesterol (C) concentration is known to be decreased in HIV-infected patients. Lipoprotein metabolism changes occurring as host response to infection include an antioxidant effect that is part of the defense system. Paraoxonase (PON) are HDL-associated enzymes that, due to their antioxidant properties, have been considered the main factor responsible for the HDL anti-atherogenic role. Higher HDL concentrations have been associated with a better disease course in HIV patients undergoing antiretroviral treatment. The aim of this study was to determine relationship between HIV-infection in treatment-naïve patients and activity of PON-1 and lipoprotein concentrations.

### Methods

This is an observational prospective study in HIV-infected treatment-naïve patients, without treatment criteria, and without viral hepatitis co-infection. After informed consent, demographic characteristics and blood samples were collected to assess CD4+ lymphocyte, viral load, total-C, HDL-C, LDL-C, triglycerides and PON-1 activity. PON-1 activity was assessed by quantification of nitrophenol formation by spectrophotometry and was expressed as U/L. Chi-square test and Student's t-test were used to compare, respectively, categorical and continuous variables. Spearman's test was used to analyze the correlation between

PON-1 activity and HDL-C, LDL-C, total-C and CD4+ count.

### Summary of results

29 patients: male 18 (62%); female 11 (38%); mean age 38.36 ± 12.02 years; mean CD4+ count 501 ± 233,75 cells/μL; mean VL 3.99 ± 1.01 log<sub>10</sub> copies/mL. Mean total-C: 177.69 ± 38.45 mg/dL; HDL-C: 51.50 ± 20.321 mg/dL; LDL-C: 113.27 ± 29.36 mg/dL; triglycerides 106.72 ± 113.91 mg/dL; PON-1 activity: 69.26 ± 20.50 U/L. PON-1 activity was significantly higher in patients with >350 cells/μL (p = 0.008). A significant inverse relation was observed between PON-1 activity and LDL-C (p = 0.03; r: 0.69).

### Conclusion

According to our results, HIV-infected patients with CD4+ lymphocyte >350 cells/μL revealed greater PON-1 activity, presumably associated with an antioxidant effect, less oxidative stress and less metabolic disturbance. There was no correlation with total-C, HDL-C and viral load. A possible inverse correlation was found with LDL-C levels.