

Topic: B39 Cardiovascular disease and other end organ damage

Title: Abacavir treatment and biomarkers associated with cardiovascular disease (CVD) in HIV-1-infected patients on effective antiretroviral therapy.

Author(s): [A. De Luca](#)¹, K. De Gaetano Donati¹, A. Cozzi-Lepri², A. De Curtis³, M.R. Capobianchi⁴, A. Antinori⁵, G. Scalise⁶, G. Magnani⁷, V. Vullo⁸, R. Cauda¹, L. Iacoviello³, A. d'Arminio Monforte⁹, ICONA Foundation Study Group

Institute(s): ¹Catholic University, Institute of Clinical Infectious Diseases, Rome, Italy, ²Royal Free and University College Medical School, London, United Kingdom, ³Catholic University, Laboratory of Genetic and Environmental Epidemiology, Campobasso, Italy, ⁴IRCCS Ospedale Lazzaro Spallanzani, Department of Virology, Rome, Italy, ⁵IRCCS Ospedale Lazzaro Spallanzani, Clinical Department, Rome, Italy, ⁶Università Politecnica delle Marche, Clinic of Infectious Diseases, Ancona, Italy, ⁷Hospital of Reggio Emilia, Clinic of Infectious Diseases, Reggio Emilia, Italy, ⁸University 'La Sapienza', Department of Clinical Infectious Diseases, Rome, Italy, ⁹University of Milan, Institute of Infectious and Tropical Medicine, Milan, Italy

Text: **Background.** An increased risk of myocardial infarction was observed in patients with current/recent exposure to abacavir. We analysed the effect of different treatment patterns on CVD-associated biomarkers in longitudinal samples from ICONA enrollees.

Methods. We selected patients on cART who, in the period between pairs of longitudinally stored plasma samples, had a VL < 400 copies/mL and were: starting abacavir (group A), continuing abacavir (group B), stopping abacavir (group C) not receiving abacavir (group D). hsCRP, IL-6, D-dimer, tissue plasminogen activator (t-PA) and plasminogen activator inhibitor-1 (PAI-1) levels were quantified. Changes within groups and differences in changes between groups were analysed using non-parametric tests and by linear regression models adjusting for prior AIDS, CD4, VL, concomitant drugs use, age, gender, smoking status and lipids.

Results. Pairs of tests from 62 patients were examined (group A n=26, B=22, C=7, D=7): 67%M; at first sample median age was 38y, VL had previously been < 400 for 3.3y. Patients on abacavir showed higher levels of PAI-1 (n=80, median=190ng/mL) as compared to those currently not (n=48, 104ng/mL, p=0.0001). No significant difference was detected comparing changes of the different molecules over paired longitudinal samples within and between groups (median sample distance 0.73y) (table).

	Group A Mean Δlog (p-value)	Group B Mean Δlog (p-value)	Group C Mean Δlog (p-value)	Group D Mean Δlog (p-value)	p-value (Kruskal Wallis) for difference between groups
t-PA	-13% (0.027)	-1% (0.882)	+9% (0.691)	+11% (0.623)	0.346
PAI-1	+3% (0.676)	+1% (0.648)	+5% (0.561)	-6% (0.678)	0.398
D-dimer	-7% (0.042)	-3% (0.274)	-2% (0.716)	+22% (0.313)	0.447
hsCRP	-28% (0.528)	+173% (0.467)	-284% (0.295)	+12% (0.871)	0.624
IL-6	-88% (0.040)	-46% (0.471)	-137% (0.155)	-10% (0.356)	0.904

[Longitudinal changes of biomarkers]

Similar results were obtained when analysing annual changes and in multivariate analyses.

Conclusion. In patients with suppressed viral load on ART, abacavir treatment was associated with higher levels of a biomarker indicating a reduced fibrinolytic capacity but no significant changes in biomarkers were observed over longitudinal measures.

Country of research: Italy

Ethical Research Declaration: Yes