

Influence of plasma HIV viremia on liver stiffness in HIV monoinfected patients and HIV-HCV coinfecting patients

Monica Basso¹, **Saverio Giuseppe Parisi**¹, Renzo Scaggiante², Marzia Franzetti², Samantha Andreis¹, Anna Maria Cattelan², Carlo Mengoli¹, Mario Cruciani³, Massimo Andreoni⁴, Sara Piovesan¹, Giorgio Palù¹, Alfredo Alberti¹

¹University of Padova, Italy, ²Padova Hospital, Italy, ³Center. Diffusive Diseases, ULSS 20 Verona, Italy, ⁴Tor Vergata University, Rome, Italy.

Background: The aim of this study was to determine the influence of plasma HIV viremia (pHIV) on liver fibrosis assessed with transient elastography (TE) in HIV monoinfected patients and HIV-HCV coinfecting pts: we focused on the 12 month period before TE was performed

Methods: Adult HIV patients had to be (HBsAg)-negative, HCV RNA positive in case of HCV positivity (HCV therapy-naïve or with an unsuccessful antiviral treatment ended six months before TE was performed), with regular viro-immunological follow-up of HIV disease and a valid TE performed in the time interval December 1 2013 - September 30 2015. Patients were classified only on the basis of the longitudinal pHIV, regardless of pHIV when TE was performed. as having undetectable HIV viremia if no plasma value exceeded 50 copies/ml; only a single viral blip every year was tolerated. The cut-off for significant fibrosis was set at 7.1 kPa and the value for “normal” LS at 4 kPa.

Results: A total of 273 patients were included: a detailed description is reported in Table 1. HIV-HCV patients showed higher liver stiffness respect to HIV monoinfected patients both in case of unsuccessful pHIV suppression and of pHIV undetectability. (p < 0.0001 and p = 0.0001 respectively). Interestingly, HIV mono-infected patients with detectable pHIV had significantly higher LS values respect to monoinfected subjects with undetectable pHIV (4.8 kPa vs 4.3 kPa, p = 0.0045) and a lower percentage of patients with normal LS value (21.4 % vs 37.4%, p = 0.0329). The higher LS values in patients with HCV coinfection was confirmed both in patients with a nadir ≤ 200 cells/mm³ and > 200 cells/mm³ (Figure 1 and Figure 2).

Table 1. Characteristics of HIV-HCV coinfecting patients and HIV monoinfected patients.

Variables	HIV-HCV coinfect Detect HIV RNA (24 pts)	HIV monoinfected Detect HIV RNA (70 pts)	HIV-HCV coinfect Undetect HIV RNA (56 pts)	HIV monoinfected Undetect HIV RNA (123 pts)
Age (mean, 95% CI)	47 (44.5-49.5)	42.7 (40.3-45.2)	48.4 (46.4-50.3)	49.4 (47.2-51.6)
Male, n (%)	20 (83.3)	65 (92.9)	44 (78.6)	105 (85.4)
BMI	24.3 (21.2-25.3)	24.1 (22.8-24.8)	22.9 (21.9-23.9)	23.8 (23-24.5)
Liver stiffness (kPa)	7 (5.7-9)	4.8 (4.4-5)	7.6 (6.4-10.1)	4.3 (4.1-4.4)
Pts with kPa ≤4, n (%)	2 (8.3)	15 (21.4)	4 (7.1)	46 (37.4)
Pts with kPa ≥7.1, n (%)	12 (50)	8 (11.4)	33 (58.9)	11 (8.9)
CD4 count at nadir (cells/mm ³),	193 (132-340)	387 (300-416)	250 (202-290)	300 (252-330)
HCV RNA at T-1 (IU/ml)	1646769 (608807-2798902)	n.a,	1702648 (973526-2650474)	n.a
HIV RNA at T-1 (copies/ml),	6097 (588-35949)	22190 (6501-37826)	n.a.	n.a.

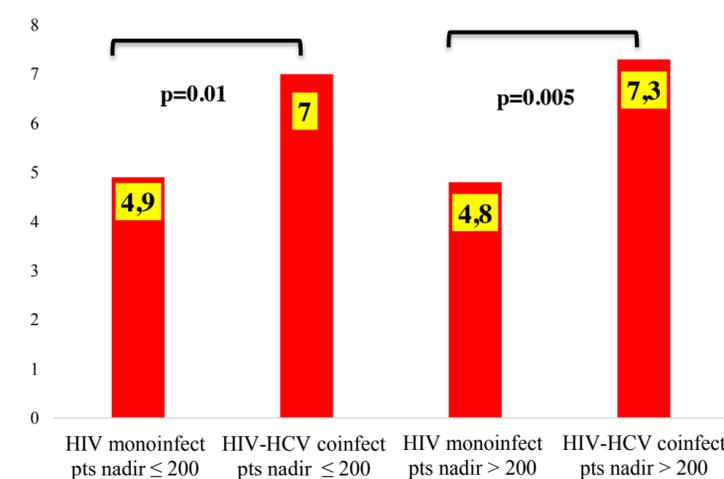


Fig 1
HIV RNA detectable

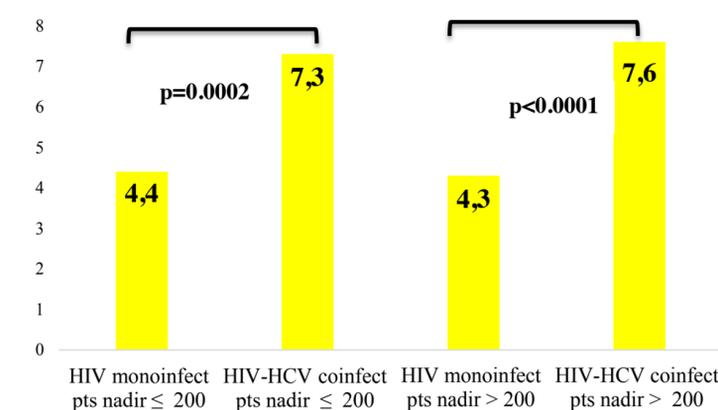


Fig 2
HIV RNA undetectable

Conclusions: Our data suggested that inflammatory status evaluated as uncontrolled pHIV for a 12 months period may influence liver stiffness value, a non-invasive assessment of liver fibrosis, in HIV mono-infected but not in HIV-HCV co-infected pts.