

Prevalence and Cofactors of Nonalcoholic Fatty Liver Disease diagnosed by Transient Elastography with Controlled Attenuation Parameter in HIV Mono-infection

Élise Vuille-Lessard, Lynda Lennox, Costa Pexos, Bertrand Lebouche, Marina B Klein, Giada Sebastiani, for the LIVEHIV study group

Nonalcoholic fatty liver disease (NAFLD) is the most frequent liver disease in Canada. HIV+ persons are at high risk for NAFLD. Nevertheless, data on NAFLD in HIV mono-infection are scarce. We investigated prevalence and cofactors of NAFLD and liver fibrosis by transient elastography (TE) and associated controlled attenuation parameter (CAP). This was a prospective cohort study of HIV mono-infected adults without significant alcohol intake or coinfection with hepatitis B or C. Any grade NAFLD (involving >10% of hepatocytes), significant NAFLD (>30%) and severe NAFLD (>60%) were defined as CAP>232, CAP>260 and CAP>292 dB/m, respectively. Significant liver fibrosis and cirrhosis were defined as liver stiffness by TE>8 kPa and >13 kPa, respectively. Cofactors of NAFLD and liver fibrosis were determined using logistic regression. 310 consecutive patients (mean age 49.9 years, 77% men; mean CD4 630±253, 90% on antiretrovirals) were included. CAP identified any grade, significant and severe NAFLD in 55.3%, 33.7% and 16.3% of cases, respectively. Significant liver fibrosis and cirrhosis were found in 11% and 2.3% of cases, respectively. Multivariate analysis results are reported in the Table. The presence of at least two predictors among BMI>25, use of protease inhibitors and elevated ALT had 100% sensitivity to rule in significant NAFLD.

Conclusion: NAFLD diagnosed by TE with CAP is frequent in HIV mono-infected persons, particularly in those with obesity, elevated ALT and exposed to protease inhibitors. Importantly, significant NAFLD was an independent predictor of liver fibrosis. Non-invasive screening strategies should be implemented for such a frequent comorbidity in this population.

	Significant NAFLD (CAP>260 dB/m)	
Variable	Adjusted Odds Ratio (95% CI)	p
BMI>25 Kg/m²	4.44 (2.26-8.72)	<0.001
ALT>ULN	2.35 (1.14-4.84)	0.02
Exposure to protease inhibitors	2.43 (1.19-5.00)	0.02
	Significant liver fibrosis (Liver stiffness >8kPa)	
Variable	Adjusted Odds Ratio (95% CI)	p
Age	1.11 (1.04-1.18)	0.002
BMI>25 Kg/m²	2.91 (1.02-10.29)	0.04
ALT>ULN	8.30 (2.45-28.06)	0.001
Significant NAFLD (CAP>260 dB/m)	5.82 (1.68-20.11)	0.005