

CONTROL ID: 2392129

TITLE: PREVALENCE AND FACTORS ASSOCIATED WITH NONALCOHOLIC FATTY LIVER DISEASE AS DIAGNOSED BY TRANSIENT ELASTOGRAPHY WITH CONTROLLED ATTENUATION PARAMETER IN HIV MONO-INFECTED PATIENTS

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PRESENTATION TYPE: Oral or Poster

CURRENT CATEGORY: CASL (Liver)

AWARDS: CAG, CASL, or CCC Student Research Prizes

ABSTRACT BODY:

Aims: Nonalcoholic fatty liver disease (NAFLD) is the most frequent liver disease in Canada and may significantly contribute to mortality among HIV-infected persons. Due to the invasiveness of liver biopsy, data on NAFLD in HIV mono-infected patients are scarce. We investigated prevalence and predictors of NAFLD and liver fibrosis in a large cohort of HIV mono-infected patients, without coinfection with hepatitis B or C, by transient elastography (TE)/controlled attenuation parameter (CAP).

Methods: This was a prospective cohort study at McGill University Health Centre, which included 310 consecutive HIV mono-infected persons (mean age 49.9 years, 77% men). Patients with significant alcohol intake or coinfection with hepatitis B or C were excluded. Any grade NAFLD (>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 TE measurement >8 kPa and >13 kPa, respectively. Predictors of NAFLD and liver fibrosis were determined by multivariate logistic regression models.

Results : CAP identified any grade NAFLD, significant NAFLD 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. A model combining the identified predictors for significant NAFLD (overweight, protease inhibitors and elevated ALT) showed that presence of at least two predictors had 100% sensitivity to rule in significant NAFLD.

Conclusions: NAFLD diagnosed by TE with CAP is frequent in HIV mono-infected persons, particularly in those with overweight, elevated ALT and exposed to protease inhibitors as antiretrovirals. Of note, significant NAFLD is a predictor of significant liver fibrosis. Longitudinal studies are needed to evaluate the impact of interventions, such as weight loss, aimed at reducing morbidity and mortality due to liver disease in this population.

Multivariate logistic regression analysis of variables associated with NAFLD and significant liver fibrosis by Fibroscan/CAP in 310 HIV mono-infected patients

Variable	Significant NAFLD (CAP>260 dB/m)	
	Adjusted Odds Ratio (95% CI)	p
Overweight (BMI>25 Kg/m ²)	4.44 (2.26-8.72)	<0.001
ALT>ULN	2.35 (1.14-4.84)	0.02
Exposure to protease inhibitors antiretrovirals	2.43 (1.19-5.00)	0.02
Significant liver fibrosis (Liver stiffness>8 kPa)		

Variable	Adjusted Odds Ratio (95% CI)	p
Age	1.11 (1.04-1.18)	0.002
Overweight (BMI>25 Kg/m ²)	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

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