AIM

Nonalcoholic fatty liver disease (NAFLD) has emerged as a new concern in HIV-positive patients. The ECHAM (European Cohort on HIV, Ageing and Metabolic liver diseases) Study Group aimed to assess the prevalence of NAFLD and its complications in nonalcoholic steato-hepatitis (NASH), fibrosis and cirrhosis in at-risk HIV-monoinfected individuals receiving ART.

PATIENTS and METHODS

This cross-sectional study was conducted in seven European centers and enrolled HIV-positive individuals with persistently elevated transaminases (>1.5 ULN) and/or metabolic syndrome (MS), and/or lipodystrophy without other causes of liver disease (i.e., HCV or HBV coinfections or excessive alcohol intake). All patients underwent complete non-invasive metabolic and liver assessments including hepatic MRI, Fibroscan®/CAP (controlled attenuation parameter) and FibroMAX®. A liver biopsy was indicated in case of suspected significant fibrosis (≥F2) based on Fibroscan® (>7kPa) and/or Fibrotest® (≥0.49).

RESULTS (1)

Characteristics of the study population

Between March 2014 and November 2015, 461 individuals were screened. 442 met the inclusion criteria and 402 had full liver assessment and were further analyzed. Table 1 summarizes their characteristics.

RESULTS (2)

Proportion of patients with steatosis, NASH and fibrosis based on non-invasive markers

Hepatic MRI classified 257 (64%) patients with significant steatosis defined by a fat fraction (FF) >55%. NASHTest (Biopredictive) classified 36 (9%) patients with NASH. Using non-invasive markers of fibrosis, 140 (35%) had suspected significant liver fibrosis including 12.4% with cirrhosis (Table 2 and Figure 1). However, the concordance between Fibroscan® and Fibrotest® for the diagnosis of fibrosis was poor (kappa coefficient 13%).

RESULTS (3)

Liver histology and diagnostic agreement with non-invasive markers

Of 140 patients eligible for liver biopsy, the procedure was performed in 50 (35%). Histological analysis was available for 49 patients and found NAFLD in 76% and NASH in 47%. Interestingly, significant fibrosis (F2/F3) and cirrhosis was confirmed in only 33% and 4% of patients, respectively (Table 3). Using liver histology as a reference, the diagnostic performance of non-invasive markers to detect fibrosis, steatosis and NASH was poor (Table 4). Only hepatic MRI showed a strong correlation with histologic steatosis (Positive likelihood ratio 4.75).

CONCLUSIONS

Nonalcoholic fatty liver disease patients on ART with metabolic disorders are at high risk of liver steatosis, NASH and fibrosis. However, non-invasive markers of NASH and fibrosis by e.g. Fibroscan must be interpreted with caution in this population since we observed a poor agreement with histological results.

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The study has been registered on clinicaltrial.org, NCT02093754