The clinical utility of targeted liver elastography (Fibroscan) screening for liver fibrosis/cirrhosis among people living with HIV (PLWH)

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Introduction

The Community Liver Health Checks Programme[1] is an NHS project that offers population-level liver screening using liver elastography (Fibroscan) to identify those with fibrosis or cirrhosis. This aims to support early detection and diagnosis of liver cancer and referring those at high risk onto surveillance pathways. In this study, we describe the population characteristics and results of routine liver elastography to determine its clinical utility in our cohort.

Methods

We undertook a prospective observational study of PLWH who had a liver elastography as part of the community liver health screen. All participants had identified risk factor(s) for liver fibrosis to be included in the study. Data abstracted included demographics, sexual orientation, CD4 and HIV viral load at scanning, antiretroviral regimen, risk factors for liver disease including alcohol, intravenous drug use, the presence of metabolic risk factors ie diabetes mellitus, obesity, and history of hepatitis B or C. Data analysis was completed using Microsoft Excel and Statistical Package for the Social Sciences (SPSS).

Results

382 were included in the study. 76% (n=291) were male, with a median age of 48 years (range 26-75). The majority were white (55.8% n=213). 62% (n=237) were men who have sex with men (MSM). Median time since HIV diagnosis was 16 years, with a median CD4 of 641. 95% had undetectable HIV viral load at time of scanning.

The most common indication for FibroScan referral was BMI > 30 in 47.4% (n=181). Other common indications include NAFLD (31%, n=118), Alcohol (27.1%, n=103). 24.9% (n=95) had 2 or more risk factors. Overall, 53.7% (n=205) had evidence of steatosis (≥ S1), 19.4% (n=74) had evidence of fibrosis (≥ F1), and 1% (n=4) had evidence of cirrhosis. In bivariate analysis, BMI >30 and a known diagnosis of NAFLD were associated with steatosis (≥ S1) (OR 3.1 and 1.8 respectively).

Patient demographics	
Number of patients	382
Male	291 (76%)
Female	91 (24%)
Age	
Median (range)	48 (26 – 75)
Ethnicity	
White	213 (55.8%)
Black African	120 (31.4%)
Black Caribbean	5 (1.3%)
Time since HIV diagnosis (years)	
Median (range)	16 (2 – 43)
CD4 at scanning	
Median (range)	641 (127 – 2039)
Undetectable VL at scanning	363 (95%)
Men who have sex with men	237 (62%)

The antiretroviral combination of TAF and an integrase inhibitor (excluding Genvoya) had statistically significant association with ≥ S1 steatosis (OR =3.4). On the other hand, prior exposure to older ARV regimens containing didanosine or stavudine did not show an association with the development of liver fibrosis or steatosis.

Of those with multiple risk factors (≥ 2), 74.7% (n=71) had evidence of steatosis, 20% (n=19) had evidence of fibrosis, 2.1% (n=2) had evidence of cirrhosis. Bivariate analysis show a significant correlation between the presence of multiple risk factors and ≥ F1 fibrosis (OR =2.3) and ≥ S1 steatosis (OR=3.2).

Conclusions

Our data shows a low prevalence of liver cirrhosis among our cohort of PLWH. Routine FibroScan may not be cost effective in diagnosing cirrhosis in PLWH with a single liver risk factor. However prevalence increases in the presence of multiple risk factors. We recommend FIB-4 score as an inexpensive primary screening tool for fibrosis/cirrhosis in line with EASL guidelines[2], and Fibroscan for those with multiple risk factors or elevated FIB-4 score ≥1.3

References

1. Community Liver Health Checks (accessed 18/10/2024) https://www.nelcanceralliance.nhs.uk/community-liver-health-checks#:~:text=The%20community%20liver%20health%20van,scan%2C%20from%20a%20trained%20nurse.
2. EASL Clinical Practice Guidelines on non-invasive tests for evaluation of liver disease severity and prognosis (accessed 18/10/2024) https://easl.eu/wp-content/uploads/2021/06/EASL-Clinical-Practice-Guidelines-on-non-invasive-tests-for-evaluation-of-liver-disease-severity-and-prognosis-%E2%80%93-2021-update.pdf

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