A comparison of risk factors and other clinical characteristics between HIV-infected Nigerians with and without significant fibrosis/cirrhosis.

Oyeleke G[1], Odeghe E[1], Odukoya O[1], Duguru M[2], Davwar P[2], Lesi O[1], Okeke E[2], Kocherginsky M[3], Akanmu A[1], Achenbach C[3], Hawkins C[3], Ogunsola F[1], Murphy R[3], Hou L[3].

Affiliations: 1. University of Lagos/Lagos University Teaching Hospital, 2. University of Jos/Jos University Teaching Hospital, 3. Northwestern University.

Background

- Liver disease is a major cause of morbidity and the main cause of non-AIDS associated mortality in Persons living with HIV (PLH) in Africa, with liver fibrosis being an important risk factor.
- Early recognition and diagnosis of liver disease in PLH is important to reduce morbidity and mortality.
- Measurement of liver stiffness using Transient Elastography (TE), a non-invasive test that measures liver stiffness through pulsed echo ultrasound, is a promising alternative to liver biopsy and has high sensitivity for determining the presence of advanced liver fibrosis.[1]

Objective

- To compare demographic, clinical and laboratory characteristics in PLH with and without significant liver fibrosis (TE >9.3kPa).

Methods

- HIV-infected adults >18 enrolled at Lagos University Teaching Hospital, & Jos University Teaching Hospital, Nigeria between 11/18- 2/20 in an NCI-funded study examining biomarkers associated with HIV-associated Hepatocellular Cancer (HCC) were included in this cross-sectional descriptive study
- Demographic, clinical and laboratory data were compared between HIV-infected subjects with and without significant fibrosis TE (>9.3kPa).
- All analyses were conducted using R version 4.0.2.

Results

Table 1: Baseline characteristics of participants

Variables (median, IQR)	Overall	TE>9.3kPa	TE ≤9.3kPa	p-value
Participants (%)	**426**	**72 (16.9)**	**354 (83.1)**	
Age in years	46	46.5	45	0.1
Gender, male	145 (34.2)	35 (48.6)	110 (31.2)	**0.01**
On ART	424 (99.5)	72 (100)	352 (99.4)	1.0
BMI (Kg/m^2)	25.2	24.7	25.3	0.35
HIV Duration (yrs)	12.0	12.0	12.0	0.97
Pre-ART CD4 Count (mean)	503.2	459.0	511.6	0.22

Table 2:Comparisons of laboratory parameters

Variables (median, range)	Overall	TE >9.3kPA	TE ≤9.3kPA	P-value
ALT	16 (0.7, 210)	27.9 (4, 191)	15.0 (0.7, 210)	**<0.01**
AST	24 (3, 640)	38.1 (12, 168)	23.0 (3, 640)	**<0.01**
Platelets	235 (75, 750)	226.5 (75, 504)	236 (87, 750)	0.15
HBsAg positive (%)	50 (12.3)	12 (19)	38 (11)	0.09
HCV Antibodies (%)	43 (10.6)	15 (23.8)	28 (8.1)	**0.01**

ART, Anti-Retroviral theray; BMI, Body mass index; ALT, Alanine maintransferase; AST, Aspartate aminotransferase, HBsAg, Hepatitis B Surface antigen; HCV' Hepatitis C Virus.

Table 3: Comparison of Co-morbidities

Variables	Overall	TE >9.3kPA	TE ≤9.3kPA	P-value
Duration of alcohol use (yrs)	15	20	15	0.06
Current alcohol use (%)	58 (13.6)	16 (22.2)	42 (11.9)	**0.02**
Obesity (%)	11 (2.6)	2 (2.8)	9 (2.5)	1.0
Dyslipidemia (%)	8 (1.9)	1 (1.4)	7 (2.0)	0.9
Diabetes Mellitus (%)	12(2.8)	7 (9.7)	5 (1.4)	**<0.01**

Conclusions

- Traditional risk factors observed in other African and non-African cohorts such as viral hepatitis C, alcohol consumption and male gender[2] were more common among subjects with TE>9.3 kPa in this cohort.
- Surprisingly, HBsAg positivity was similar between groups, however this may likely be due to the fact that almost all of the patients were on ART. ART has been shown to result in sharp, early declines in liver fibrosis scores in HIV/HBV co-infection to levels similar to those with HIV.
- Further study is needed to examine the independent effects of active HCV infection (anti-HCV with detectable HCV viral load) and diabetes on liver disease in this population.

Acknowledgements

References

1. Mialhes P, Pradat P, Chevallier M, et al. Proficiency of transient elastrography compared to liver biopsy for the assessment of fibrosis in HIV/HBV-coinfected patients. J Viral Hepat. 2011; 18:61-9.
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References

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