

The prevalence of Hepatocellular Carcinoma in HIV-infection: results of large-scale liver ultrasound screening program in HIV-infected Nigerians.

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Background

- Hepatocellular carcinoma (HCC) is a leading cause of cancer and cancer-related mortality in Nigeria with incidence rates >20 per 100,000 persons. Over two-thirds are co-infected with HBV.
- HCC is also common among HIV-infected individuals and, in high income countries, is emerging as a leading cause of non-AIDS related mortality globally as access to antiretroviral therapy (ART) improves.
- Given the high burden of HIV/HBV co-infection, it is hypothesized that there are high rates of HCC among HIV-infected individuals in Nigeria.
- As part of an NCI-funded study examining biomarkers associated with HIV-associated HCC, investigators instituted a large-scale liver ultrasound screening program in the Jos University Teaching Hospital APIN HIV Care and Treatment Clinics to assist with the identification of subjects with HIV/HCC. This abstract describes the pattern of liver diseases detected by abdominal ultrasound, including abnormalities suggestive of HCC from this screening program.

Objective

- To describe patterns of liver diseases and assess the prevalence of primary HCC among HIV-infected Nigeria adults on ART

Methods

- In this cross-sectional study, all consenting adult (>18) HIV-infected subjects underwent an abdominal ultrasound using the N2 full Digital Ultrasound and completed a structured questionnaire on demographic and behavioral characteristics. All HIV-infected subjects were receiving antiretroviral therapy
- Ultrasonography findings including size, texture, number and size of lesions were recorded. Basic descriptive statistics was performed

Acknowledgements



Results

Table 1: Demographic characteristics of study participants

Demographic characteristics	Frequency (n=2727)	Percentage
Total participants	2727	
Age group		
≤30	142	5.2%
31-40	729	26.7%
41-50	989	36.3%
51-60	646	23.7%
>60	221	8.1%
Gender		
Male	777	28.5%
CD4 cell count/mm³, mean	441	-
HIV viral load copies/mL, mean	5969.5	-
Marital status		
Single	225	8.3%
Married	2285	83.8%
Separated/Divorced	58	2.2%
Widowed/Widower	159	5.8%

Table 2: Liver ultrasound findings among study participants

Liver characteristics	Frequency (n=2727)	Percentage
Normal liver	2149	78.8%
Hepatitis	72	2.6%
Fatty liver	109	4%
Cirrhosis	38	1.4%
Primary HCC	4	<0.01%
Hepatomegaly or Hepatosplenomegaly	298	10.9%
Other*	45	1.6%

*Other included: hepatic calcification, liver cyst, splenomegaly, renal cyst, gallbladder stone.

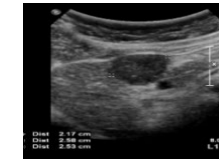
Figures 1-3. Examples of USS findings and descriptions

Figure 1:



Normal liver-appears as homogeneous with an echogenic texture.

Figure 2:



HCC-typically hypoechoic lesion (s)

Figure 3:



Fatty liver-bright hepatic echoes, increased hepatorenal echogenicity and vascular blurring of portal or hepatic vein

- Two thousand seven hundred and twenty-seven subjects were enrolled into the program [1950 (71.5%) females; mean age 46.40±10.15 years].
- The most common liver abnormality was hepatomegaly, which was seen in 298 (10.9%) of the study subjects.
- Mean HIV viral load was significantly higher among those with hepatomegaly compared to those with a normal scan ($\log_{10}3.74$ vs. $\log_{10}5.21$ $p=0.015$).
- Liver nodules or solid masses consistent with HCC were only seen in 4 (0.01%) of the study subjects.

Conclusions

- In this large screening program, the prevalence of HCC among HIV-infected was very low 4(<0.01%).
- This is reassuring given the relatively large number of subjects screened and high prevalence of other risk factors for HCC in this population.
- An effect of ART on reducing incidence of HCC in this population is surmised, however, requires further exploration in long-term follow up studies