

Global Health Day

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

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Introduction: In Nigeria, over 3 million people are infected with HIV with prevalence rates ranging from 6.1-8.0%. Rates of co-infection with HBV and HCV among HIV-infected are common ranging from 9-12.3% (HBV) and 6-20% (HCV). 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 a 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.

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. Ultrasonography findings including size, texture and number and size of lesions were recorded. Basic descriptive statistics was performed.

Results: Two thousand seven hundred and twenty-seven subjects were enrolled into the program [1950 (71.5%) females; mean age 46.40 ± 10.15 years]. All subjects were receiving antiretroviral therapy (ART). The majority of study subjects (2149, 78.8%) had a normal liver ultrasound scan. The most common liver abnormality was hepatomegaly, which was seen in 298 (10.9%) of the study subjects. One hundred and nine (4.0%) had a diffusely hyperechogenic liver on ultrasound, suggestive of fatty liver. Seventy-two (2.6%) had a hypo echogenic liver with starry sky appearance on ultrasound scan, suggestive of active inflammation. Thirty-eight (1.4%) of the study subjects had features consistent with liver cirrhosis, which include one or more of the following: heterogeneous echotexture, shrunken size, irregular outline, enlarged caudate lobe. Hepatic calcifications were seen in 2 (0.08%) subjects, while only 1 (0.04%) had a single liver cyst. Liver nodules or solid masses were seen in 4 (0.01%) of the study subjects. Mean HIV

viral load was significantly higher among those with hepatomegaly compared to those with a normal scan (log103.74 vs.log105.21 p=0.015).

Conclusions: In this large screening program, the prevalence of HCC among HIV-infected was extremely 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.

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