Reviewer’s report

Title: Occult Hepatitis B Virus infection in ART-Naive HIV-Infected Patients seen at a Tertiary Care Centre in North India

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Reviewer: Phyllis C Tien

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In this manuscript, the authors estimate the burden of HBV disease in HIV-infected patients in a tertiary care center in north India. This is a descriptive study that determines: 1) the prevalence of hepatitis B surface antigiemiia in HIV+ patients relative to controls; 2) the prevalence of positive HBV serological markers in a small subset of HIV+ who are HBsAg negative; and 3) the prevalence of occult HBV infection in those with positive HBV serologies in the absence of HBsAg. They also describe the characteristics of those with positive HBV serologies and those with occult HBV infection.

A weakness of the study is the small number of HBsAg negative patients (n=53) that went on to get complete HBV serologies and HBV DNA testing. Because of the small numbers, the study can not use multivariate analysis to address the factors associated with positive HBV serologies or occult HBV infection in HIV-infected patients without HBsAg. The study is really a descriptive study of HBV prevalence in HIV+ patients in a single tertiary care center in Northern India. Little can be said of the clinical significance of occult HBV, which was one of the stated objectives of the study.

Major Compulsory revision

In the last paragraph of the background section, they report that studies have reported rates of occult HBV infection varying from 35% to 89.5% in HIV patients with anti-HBc alone. They cite 2 studies. There have been several other more recent studies (Nunez M et al AIDS 2002, Shire, NJ et al JAIDS 2004, and Tsui et al CID 2007) than the ones cited by the authors where the rate of occult HBV infection in HIV has been much lower ranging from 0% to 10%. Those studies included few who had received ART with anti-HBV activity. These studies should be cited.

Results section

It is unclear why the prevalence of HBsAg was categorized by the age groups chosen. What is the clinical significance? For example, it seems unusual to distinguish those >45 years as a non-sexually active group. It would be more effective to describe the HIV infected with HBsAg+ compared to those without HBsAg by median age, sex, risk factor for HIV, median CD4, median LFT (is this AST and/or ALT?), and HCV antibody. This will provide the reader with some insight as to the characteristics of the HBsAg negative group, especially since the 53 were randomly selected from this group.
Some comment should be made as to whether the characteristics of the 53 HBsAg negative HIV+ patients differed from the larger group of HBsAg negative HIV+ patients to give the reader some insight as to how representative the 53 randomly selected patients were.

The prevalence of HBsAg positivity is comparable to studies in the US, but the rate of occult HBV infection seems higher than recent reports of occult HBV infection. Is there data on whether any of these cases could represent acute HBV infection? Could any of the positive serologies been falsely positive. These should probably be included as limitations of the study, if they cannot be determined.

Discussion section
There should be a paragraph regarding the limitations of the study including small sample size to adequately assess the prevalence of occult HBV infection, inability to adequately address the factor associated with occult HBV infection in a multivariate analysis.

Table 1. Did you check for HCV IgM antibody versus HCV total (Ig M and Ig G)? Please clarify.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.