

GB-Virus Type C Lowers Mortality in Advanced HIV Disease

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Vahidnia F, Petersen M, Stapleton JT, Rutherford GW, Busch M, Custer B. Acquisition of GB Virus Type C and Lower Mortality in Patients with Advanced HIV Disease

BACKGROUND

The GBV-C virus (formerly called as the hepatitis G virus) is a non-pathogenic virus present in up to 1-5% of people in the developed and up to 20% in the developing world [1]. The virus received attention in 2001 when Xiang J [2] demonstrated that it is associated with significantly lower mortality in HIV patients. However, with the advent of highly active antiretroviral therapy (HAART), this discovery did not receive much attention.

WHY WAS THIS STUDY NECESSARY?

A study which could elaborate the relationship between GBV-C, HIV and HAART was long awaited as the earlier studies followed patient cohorts which were already infected with GBV-C. Hence, the time of exposure to GBV-C and its effect on HIV viremia and HAART was not fully investigated.

THE STUDY

This study [3] utilized data from the Viral Activation Transfusion Study (VATS) which was sponsored by the National Heart, Lung and Blood Institute. The VATS study was a randomized controlled trial (RCT) which examined the effect of leukoreduced versus non-leukoreduced transfusions to HIV-positive transfusion-naïve patients.

WHAT DID THE STUDY FIND?

This study found that GBV-C (n=39) is associated with a 78% reduced mortality [hazard ratio 0.22, 95% Confidence Interval 0.08-0.58] in HIV patients under treatment with HAART. The study utilized multivariable cox-regression analy-

sis and adjusted for factors such as baseline CD4 cell counts, HAART status and HIV RNA levels.

IMPLICATIONS

This is the first study that explores the relationship between important clinical outcomes and an incidental GBV-C exposure in HIV positive patients who are receiving HAART treatment. This study raises the possibility that a GBV-C vaccine may have a therapeutic potential for HIV patients, especially in resource-limited settings.

LIMITATIONS AND FUTURE DIRECTIONS

This study has important limitations. First, the sample size was relatively small and hence whether these results are due to chance alone or hold in a larger study remains to be seen. Secondly, the patients not under HAART treatment included those who were receiving or had previously received one or two anti-retroviral drugs, hence obscuring the relationship. The follow-up duration of 3.5 years in this study is somewhat shorter than the other observational studies (4-8 years).

Larger studies are needed to confirm these findings and to delineate the long term clinical, viral and immunological impact of GBV-C viremia on HIV patients. Efforts may also be undertaken to develop a potential GBV-C vaccine against HIV.

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