



Virology

October 06-08, 2014 Hilton San Antonio Airport, TX, USA

Hepatitis B virus and occult Hepatitis B prevalence among patients infected with the Human Immunodeficiency Virus in a Colombian city

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Introduction: Chronicinfectionby hepatitis B virus (HBV) increases morbidity and mortality among individuals infected with human immunodeficiency virus (HIV). Co-infection HIV-HBV is a frequent event as both viruses share routes of transmission. We aimed at investigate HBV and occult HBV (HBo) prevalence, genotypes and mutations of S gene among patients infected with HIV in a northeast Colombian city.

Methods: A cross-sectional study was conducted with 275 participants attending a Medical Institution in Bucaramanga, Colombia in 2010. Blood samples were collected to identify serological markers such as anti-HBs, anti-HBc and HBsAg. HBV S gene was amplified using two in-house nested PCR and viral genotype identify by sequencing analysis. Sociodemographic, CD4+ cell count, HIV viral load and antiretroviral (ART) treatment (ART) information was collected from recent medical history.

Results: Participants had on average 37 ± 11 years old and 65,1% was male. Total CD4+/µl cell counts were < 200 in 24,7% and > 500 in 28,7%. Number of copies of HIV genome /ml were <500 in 61,8% and >25.000 in 17,1%. According to the WHO classification, 36% of participants were in AIDS stage and 90% had received ART. We found HIV-HBV co-infection in 28,7% of participants from whom: 3,3% had active infection, 11,6% resolved infection, 5,1% isolated anti-HBc antibodies and 8,7% HBo. Vaccination anti-HBs antibodies \geq 10 UI/ml were detected only in 21,82%. We did not find association between HIV viral load or CD4+ cell counts and HBV infection. Sequencing analysis identified genotype F3 in 93,8% and genotype A in 6,2% of patients. We did not detect any escape mutants in the antigenic determinant "a" of the S gene in patients co-infected with HBo.

Conclusions: Among patients infected with HIV in Bucaramanga, Colombia, the prevalence of HBo was 2,6-fold HBV active infection. There are a large percentage of individuals susceptible to HBV infection as vaccination coverage is low. These findings suggest the need for a further effectiveness evaluation of implementing routine molecular assays to detect HBo among patients infected with HIV.

Keywords: Hepatitis B virus, Occult hepatitis B, Prevalence, HIV.

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