Risk factors of nevirapine hypersensitivity reaction among human immunodeficiency virus-1 infected treatment in naïve patients at Korle-bu Teaching Hospital

Elvis Twumasi Aboagye
University of Ghana, Ghana

Objective: The introduction of antiretroviral drugs in Ghana has improved survival rates amongst HIV patients. According to National Guidelines for Ghana, administration of nevirapine, a frontline antiretroviral drug leads to hypersensitivity reactions in some patients. This study examined the clinical risk factors and specific genotypic alleles associated with nevirapine hypersensitivity reactions.

Method: 74 antiretroviral naïve HIV-1 infected patients, initiating nevirapine-based HAART therapy were enrolled in this nested case control study. Recruited subjects were monitored clinically over a period of 24 weeks from July 2013 through June 2014. Blood samples were evaluated for aminotransferase activity and DNA genotyped for specific MDR1 and CYP2B6 markers.

Results: Eleven (15.7%) patients were identified as cases and 59 (84.3%) patients classed as comparisons out of the study population at the end of the 24 week-monitoring periods. Eight out of the observed cases were categorized as nevirapine hypersensitivity rash and 4 as hepatotoxicity. The concentration of AST was much higher in the cases (119.44±155.86) compared to the comparisons group (68.80±42.65), p=0.056. The concentration of ALT was also higher in the cases (136.44±165.99) compared to the control (56.72±33.02), p=0.003. The CYP2B6 516 G > T, variant allele frequency observed in the study was 62 (44.3%). There was no variant allele detected for the three SNPs in ABCB1 gene genotyped.

Conclusion: The effect of this outcome although not statistically significant with respect to the specific alleles genotyped, this findings might be clinically traced to non-adherence to medication and hospitalization of patients which seems to be a major factor to treatment failure in resource limited countries.

Biography
Elvis Twumasi Aboagye has completed his MPhil from the University of Ghana and is awaiting grant approval to enroll into a PhD programme in Molecular Cell Biology and Molecular Medicine at the University of Ghana. He is a Biomedical Scientist at Life Medical Mission, a non-governmental organization. His MPhil research findings has been published by OMICS International in Journal of AIDS and Clinical Research.

atelvis45@gmail.com