

Conference Series LLC Joint International Event on

7th Pharmacovigilance & Pharmaceutical Industry**August 22-24, 2016 Vienna, Austria*****Nathan Cummins****Mayo Clinic, USA***Investigation of Efavirenz discontinuation in multi-ethnic populations of HIV-positive individuals by genetic analysis**

Efavirenz (EFV) based antiretroviral therapy is expanding worldwide. However discontinuation of EFV containing regimens is common, due most often to neuropsychiatric side effects. We genotyped CYP2A6, CYP2B6 and CYP3A4, which encode enzymes principally involved in EFV metabolism, from HIV positive patients enrolled in multinational studies, for whom outcome data of treatment adherence was available. Patients with loss or decrease of function single nucleotide polymorphisms (SNPs) in the above genes were assigned a risk score based upon the number of SNPs present. Cox regression models were used to study the association between high genetic risk and time from initiation to EFV discontinuation other than for virologic failure or protocol determined discontinuation. Patients with highest pharmacogenetic risk had an increased risk of discontinuation of EFV containing therapy compared to patients with lower genetic risk scores (adjusted HR 1.9, P=0.009). High genetic risk score was not associated with an increased risk of discontinuing atazanavir or nevirapine. High genetic risk was present more often in blacks compared to non-blacks (Adjusted OR 4.5), and treatment discontinuation was also increased in blacks overall (Adjusted HR 1.4). However, high genetic risk was more associated with treatment discontinuation than race alone for both blacks (Adjusted OR 1.9) and non-blacks (Adjusted OR 5.3). Premature discontinuation of ART delays the time to effective long term viral suppression, and is associated with significant morbidity. Pharmacogenetics may predict those at high risk of EFV discontinuation, and therefore should be considered in patients in whom initiation of EFV based ART is being considered.

Biography

Nathan Cummins completed his MD at the University of Kentucky, and Internal Medicine and General Infectious Diseases training at the University of Cincinnati. He completed further subspecialization fellowship training in Transplant Infectious Diseases at the Mayo Clinic Rochester. He is currently an Assistant Professor of Medicine in the Mayo Clinic College of Medicine, and Senior Associate Consultant in the Division of Infectious Diseases, Department of Medicine, Mayo Clinic. He has published more than 30 peer-reviewed scientific papers in reputed journals.

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