



Efavirenz based antiretroviral therapy induced Hepatotoxicity among Ethiopian patients

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Objectives



- To assess the incidence and identify predictors of hepatotoxicity among ARV treatment naïve patients who are initiated with Efavirenz based regimen



Methods (1)



- This was prospective cohort study which was conducted from June 4, 2007 to August 27, 2009
- Conducted in three health institutions in Addis Ababa, Ethiopia (2 health centers and 1 specialized referral hospital)
- A total of 237 HIV positive, ARV treatment naïve, male and female, adults patients, with a CD4 count of \leq 200 cells/UL were enrolled in the cohort



Methods (2)



- For all the patients involved in the study a complete and relevant history and physical examination were taken
- CBC with differential, LFTs including AST, ALT, ALP, and direct and total bilirubin
- Creatinine and BUN, serological tests for hepatitis B surface antigen and anti-hepatitis C antibody Laboratory tests were also done before initiation of ART
- Follow up LFTs were performed at the 1st, 2nd, 4th, 6th, 8th, 12th, 24th and 48th weeks after initiation of ART.



Results (1)



- Hepatotoxicity was observed in 14.8% of the study participants
- The Median time for development of hepatotoxicity was 2 weeks after the start of treatment
- Statistically significant association was seen between hepatotoxicity and having lower haemoglobin, having lower platelet count, and lower albumin levels with p-values (0.001, 0.027, and 0.018 respectively)
- Elevated baseline ALT, AST, and ALP level were also noted as a good predictor for future development of hepatotoxicity with p-values (0.037, 0.025, and 0.002 respectively)



Results (2)



- Even though not statistically significant a trend was also noticed between an increased risk for development of hepatotoxicity and
 - Male sex
 - Lower BMI
 - Lower baseline WBC count
 - Lower baseline CD4 count and
 - Higher baseline viral load



Discussion & Conclusions



- Incidence of hepatotoxicity is higher among our study participants, this might be because we enrolled only those patients with a CD4 count < 200
- HIV positive patients with an Elevated baseline ALT, AST, ALP levels needs special attention and close follow up to detect and manage hepatotoxicity during the follow-up period
- In addition, attention must also be given for those patients with lower haemoglobin, lower platelet count, and lower albumin levels



Future perspectives



- In the future we would like to study
 - What mechanisms are involved in the development of hepatotoxicity
 - How do we best manage those patients who develop hepatotoxicity while on ARVs
 - Effect of serum level of drugs and genetic variation in drug metabolizing enzymes on development of hepatotoxicity